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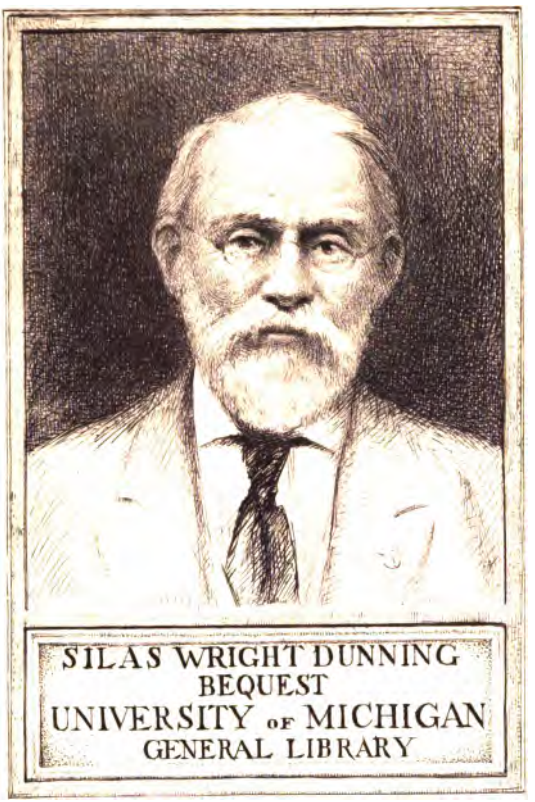

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TRANSACTIONS

OF THE

BOMBAY GEOGRAPHICAL SOCIETY,

FROM MAY 1844 TO FEBRUARY 1846.

EDITED BY THE SECRETARY.

BOMBAY:
PRINTED AT THE TIMES PRESS,
BY JAMES CHESSON.

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PREFACE.

The publication of the present number of the Transactions of the Bombay Geographical Society has been delayed for nearly a twelvemonth in consequence of the journey of the Secretary to England, and the circumstances which led to it. All the printing arrangements having been undertaken by him, it was impossible that the details should have been known to the able and most zealous officer who acted as interim Secretary, and the consequence has been that the papers have been longer detained at press than was expected, and portions of matter have crept in or been suffered to remain in them, which might probably have been left out or removed with advantage.

Several drawings and illustrations intended to have been included in the present issue have for the present been omitted to avoid further delay. The next number will be paged on with the present one so as to form a volume, so that the Map of Scinde which should have accompanied Captain Baker's papers, and the Barometric curves for the illustration of those of Dr Bradley, will appear in the forthcoming issue, and be fit for reference when the volume is complete.

An apology must be offered to the latter gentleman for the publication of portions of his paper desired by him to have been cancelled: it had been thrown off before his wishes became known to the Editor.

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MEETINGS

OF THE

BOMBAY GEOGRAPHICAL SOCIETY.

THE Bombay Geographical Society held its Ordinary Quarterly Meeting in their Rooms, Town Hall, on Thursday the 1st August 1844, at 3 o'clock P. M.—Captain H. B. Lynch, I. N., in absence of the President, in the chair. *Present*—Revd. G. Pigott; Capt. W. S. Suart; Dr. J. Bird; Lieutenant W. C. Montriou, I. N.; Ball Gungadhur Shastree, Esq.; and George Buist, Esq., LL. D., *Secretary.*

The Secretary having read the minutes of the former meeting (the Anniversary in May,) stated that the long-expected Transactions were now ready for delivery: the members present were accordingly provided with their copies. The reprint and new issue would both be sent together to the various London, Paris, and other foreign Societies, to whose attentions they had been so much indebted, and with whom in exchange they had fallen so greatly into arrears. The University Libraries of England, Scotland, and Ireland, with all other public libraries which might desire copies, would be supplied without delay. The following donations were then laid on the table:—

PAPERS.

By the Author.—Meteorological Return from Aden. By Corporal Moyes.

By the Author.—Continuation of Desultory Notes and Observations on various places in Guzerat and Western India. By John Vaupell, Esq., with a note dated 27th May, 1844.

By the Author.—Meteorology of Aden. By Corporal Moyes. (Second contribution.)

By the Author, through Colonel G. R. Jervis.—Jervis's [Major T. B., F. R. S.] printed Observations on the comparative use and merits of the various kinds of Artistical Illustration—with Glyphography, or engraved drawings, by Edward Palmer's Patent (15 copies.)

BOOKS.

By the Société Asiatique de Paris, through the Royal Geographical Society of London.—Journal Asiatique, ou receuil de memoires d' extraites et de notices &c. &c., tome i., No. 3, Mars; tome i., No. 5, Mai; tome i., No. 6, Juin; tome ii., No. 8, Septembre, Octobre; and tome ii., No. 9, Novembre, 1843.

By the Société Geographie de Paris, through the Royal Geographical Society of London.—Accroissment de la Collection Geographie de la Bibliothique Royale, en 1841.

By the Author.—Jackson's [Col. J. R.] Observations on Lakes, being an attempt to explain the laws of Nature regarding them; the cause of their formation and gradual diminution; the different phenomena they exhibit, &c., in 1833.

By the Author, through the Royal Geographical Society of London.—Vetch's [Capt. J., R. E., F. R. S.] Inquiry into the means of establishing a Ship Navigation between the Mediterranean and Red Seas.

By the Royal Geographical Society of London.—The Journal of the Royal Geographical Society of London, Vol. xiii., part 1, of 1843.

LETTERS.

From Mr J. M. Richardson, dated London, February 13th, 1844, regarding a parcel sent to him for transmission, by the Geographical Society of London, which was forwarded by the ship *Inchinnan*, through Messrs Collett and Co.

From Captain W. E. Baker, dated Kurrachee, June 1st, 1844, returning thanks for the Transactions of this Society sent him by the *Semiramis*, which have reached him safely, &c. &c.

From the Editor of the *Hindu* newspaper, dated Madras, 2nd July, 1844; do. do. by the *Mary Ann*, ditto ditto.

The Secretary was directed to return thanks to the respective donors. It was stated that though the Society was plentifully supplied with books of reference in so far as these were desirable, and had lately received very numerous contributions from all parts of the world, it had permitted its collection of Maps to fall greatly behind. The Secretary was accordingly directed to have a very handsome Table Atlas provided in the first place, and to see after other maps on the largest scale, and by the best hydrographists, by degrees, and as the funds permitted: Arrowsmith's Library Maps, to be suspended from rollers on the walls, were also recommended. The Revd. Mr. Pigott suggested the importance of making collections of old and scarce maps, especially in so far as they related to the geography of the east, with a view of preserving a record of the progress of discovery around us. The very great expediency of this was fully concurred in, but there seemed to be much difficulty in carrying it into effect otherwise than by the assistance of private parties, whose aid would be especially desirable. Were each member to lay himself out for the collection of such maps as he could fall in with, and to forward these to the Secretary, the object might by and bye be in part attained. Of course many things of very little consequence might turn up, but amongst these a large number of papers really valuable might be looked for. Even of those which in themselves seemed insignificant, some might occasionally be found of much importance for the completion of sets and making up of a series.—Some fine specimens of Glyphography were laid on the table—presents from Major Jervis, of the Bombay Engineers. It seemed extremely doubtful whether, in the first place, the art could anything like fulfil the promises made

in its favor, and whether, if it did so, it possessed any advantages over wood-cutting, which entitled it to a preference.—Lieutenant Montriou gave some account of the Survey just commenced on the Malabar coast—Lieutenant Rivers being engaged at the same time in carrying down a series of triangles along the Ghauts as part of the great general trigonometrical survey. This tedious and expensive operation has already cost Government considerably upwards of one million sterling, and is still far from being completed. Captain Lynch stated that besides continuing the survey on which Lieut. Montriou had been engaged, and which would be resumed immediately after the rains, Government were likely this season to commence another along the shores of Cutch from the mouth of the Indus to Surat, and a third was in contemplation on the southern shores of Arabia. With the Red Sea on the east, as far as Aden, we were never minutely acquainted, and sufficiently well informed as to the shores of the Persian Gulf;—but there were still large fragments of coast of which we knew next to nothing, the examination of which was essential to connect the other surveys together. Colonel Dickinson had drawn up a very elaborate digest of our knowledge on this subject, pointing out the tracts which were well known to us on the best authorities,—the tracts in reference to which we were partially informed, or informed on doubtful authorities,—and those in reference to which we were entirely in the dark. The last amounted to an extent of many hundreds of miles; this was remarkable and unfortunate enough, as these seas were not only not unfrequently traversed by vessels of the Indian Navy, but were constantly frequented by native craft trading with Bombay, and in whose safety we were directly interested; but not by any means so remarkable or so unfortunate as was our total want of trustworthy information as to the geography of the shores of Scinde, from the westernmost mouths of the Indus around to the coast of Guzerat. Of the hydrography of the Gulph of Cutch we know next to nothing; and although vessels had made their way often enough towards Mandavie, it was impossible to give instructions beforehand for the pursuance of any definite course, or to say how, or in what time, a voyage might be accomplished. Along these shores we scarcely knew with precision the exact boundaries of our own territories. It seemed very likely that instead of running twelve or thirteen degrees down the coast against the wind, as at present, and then running half as much back again, to make for Aden during the S. W. monsoon,—that a stretch of three or four degrees north-west before the wind, would carry steamers through the region of storm altogether, as the wind at this season was only violent within about two hundred miles of the shore. A sufficient offing being thus made in the direction of the Indus, vessels would then steer direct for Aden, nine degrees south, in comparatively easy weather: this seemed to be a system very likely shortly to be adopted were the state of our information such as to permit us to make arrangements sufficiently certain and specific. Some observations having been made in reference to the very limited amount of additions which had been made to the stock of published knowledge of the geography of the Chinese seas, the straits and islands belonging to the Dutch

Government, it was stated that a very considerable stock of valuable facts was occasionally collected by the commanders of merchant ships, who sometimes put down upon the ordinary charts, notes of bearings, soundings, and the direction of currents, whose publication would be valuable to the navigator. There was, on the part of these gentlemen, no backwardness in imparting the information that they had collected, and it was hoped, accordingly, when it became known how grateful the Society would feel to have geographical documents of this or of any other variety entrusted to them, and how happy they would be to have them lithographed, engraven, and supply the party contributing the sketch with whatever copies he might desire, that documents known to be in existence would find their way into the Society's hands, and that others might be brought into being for the purpose of being placed there. Some conversation took place as to the state of our information in reference to the fluctuations of the tides, and the importance of carefully attending to this in all marine surveys, especially in bays, creeks, friths, and estuaries. The expediency of attempting to employ photography in the delineation of headlands and the mouths of harbours, was also taken into consideration: there occurred considerable doubts as to whether it could be extensively resorted to, but it was considered well worthy of being tried. Though useless on board a ship, there were often rocks or other positions which afforded resting places for the camera, whence the picture might be taken.—Lieut. Suart reported that he had received advices of the shipment of the monument for Dr Heddle, to be put up in the Cathedral: Dr. Buist had inspected that at Malcolm Peth, and found it every way suitable.

THE Bombay Geographical Society held its Ordinary Quarterly Meeting on Thursday the 7th November, 1844, at 3 o'clock P. M.—Captain D. Ross, President, in the chair. *Present:* J. P. Willoughby, Esq.; Captain W. S. Suart; Revd. George Pigott; Dr. J. Burnes, K. H.; Lieutenant W. C. Montriou, I. N.; and George Buist, Esq., LL.D., Secretary.

The Secretary having read the minutes of a former meeting, gave a very favourable account of the progress and prosperity of the society. The Transactions issued just anteriorly to the former meeting had been forwarded to their respective destinations—the Bombay Government having kindly transmitted the copies for the London Society, the Library at the India House, the Asiatic Society, Lord Auckland, &c., by the overland mail. The following gentlemen were admitted members:—

J. S. Law, Esq.—proposed by J. Burnes, Esq., seconded by the Rev. Mr. Pigott.

Captain W. E. Baker, Bengal Engineers—proposed by J. Burnes, Esq., seconded by Captain Ross.

Major J. Brook, 2d Regt. Light Cavalry—proposed by J. Burnes, Esq., seconded by the Rev. Mr. Pigott.

Lieut. R. Phayre, 25th Regt. N. I.—proposed by J. Burnes, Esq., seconded by Lieut. Suart.

Sebastian S. Dickenson, Esq.—proposed by Mr. Willoughby, seconded by Dr. Burnes.

Commander James Young, I. N.—proposed by the Rev. Mr. Pigott, and seconded by Lieut. Montriou, I. N.

The following contributions were laid on the table of the Society, and the contributors directed to receive their thanks:—

PAPERS.

By Government.—Report from Lieut. J. C. Cruttenden, I. N., on the Mijjerthen tribe of Somallees inhabiting the district forming the North East point of Africa; with a letter from E. H. Townsend, Esq., Secretary to Government, dated No. 631, of August 7th, 1844.

By Government.—Report drawn up by Capt. G. LeG. Jacob, 1st Assist. to the Political Agent at Rajcote in charge, upon the general condition on that date of the province of Katteewar, and containing various points of information, principally of a Geographical and Statistical Nature, connected with that interesting province; with a letter from J. P. Willoughby, Esq., Secretary to Government, dated 11th October, No. 3132 of 1844.

By the Author.—Remarks on the Ulla Bund, and on the drainage of the Eastern part of the Scinde Basin; with Meteorological observations at Kurrachee in Scinde, from 1st May to 13th October 1844, and Meteorological observations of Sukkur, and register of a Water Gauge in the Indus, from 1st May to 30th September 1844: also a letter dated Bombay, 27th October 1844.

By the Author.—Account of collection of Geological specimens, (for presentation to the Museum of the Bombay Asiatic Society) with that of an ancient Jain Temple situated at the Falls of the Gutpurba, about three miles South West of Gokauk, in the Belgaum collectorate, by Lieut. C. P. Rigby, 16th Regt. N. I.

By the Author.—Reports on the range of the Thermometer at Aden in the month of June 1844, by Corporal Moyes.

By Dr. Buist.—Progress of the Rise and Fall of the River Indus for September 1844, and range of the Thermometer, and progress of the Inundation of the Indus, dated Kotree, 6th October 1844, addressed to Mr. J. Murray at the *Times Office.*

BOOKS.

A letter from J. S. Law, Esq., dated Tannah 6th August, 1844, forwarding a parcel addressed to his care from Mr. Pamplin of Munich, containing the undermentioned works, and also requesting the Secretary to be good enough to enrol his name in the list of subscribers of the Society:—Abhandlungen der Mathematisch Physikalischen classe der Roniglich Bayerischen Akademie der Wissenchaften, Almanach der Koliglichen, Bayerischen Akademie der Wissenchaften. —Preis—Aufgabe der Mathematisch, Physikalischen classe de Koniglich

Bayerischen Akademie der Wissenchaften Zer Munchen, Gestellt im Jahre, with Bulletin der Koninge, Akademie der Wissenchaften Munchen, 3rd January to 30th August, 1843. No. 1 to 55.

By the Bombay Branch Royal Asiatic Society.—Journal of the Bombay Branch Royal Asiatic Society, No. 7, May 1844.

By the Bombay Chamber of Commerce.—Report of the Bombay Chamber of Commerce for the fourth quarter of 1843-44; with a letter from Mr. Alex. Sutherland, acting Secretary to the Chamber of Commerce, dated No. 113 of 3rd October, 1844.

By the Medical Board, with the sanction of the Hon'ble the Governor in Council.—Report on the Medical Topography and Statistics of the Southern Division of the Madras Army, 1843; and report on the Medical Topography, and Statistics, of the provinces of Malabar and Canara, 1844:—with a letter from Dr. J. Burnes, K. H., Secretary to the Medical Board, dated No. 951 of 11th October, 1844.

By the Madras Literary Society.—Madras Journal of Literature and Science, edited by the Committee of the Madras Literary Society and Auxiliary Royal Asiatic Society, No. 30, June, 1844.

Bought for the Society from J. Jamieson & Co., for Rs. 100—The National Atlas of Historical, Commercial and Political Geography, constructed from the most recent and Authentic Sources. By A. K. Johnston, Esq., F. R. G. S.

MAP.—*By Captain W. E. Baker.*

Map of Baroche and the English Northern Purgunnas, with part of Guzerat, including the route of the army under command of Lieut.-Colonel Thomas Keating, in 1775. (Captain Baker states the Maps illustrating these remarks will be sent [lithographed] from Calcutta.)

PRINTED CATALOGUE.—*By British Library of London.*

Printed Catalogue of London British Library, dated August 20th, 1844.

PRINTED PAPER.—*By the Author.*

Lumley's Bibliographical Advertiser for July, 1844.

LETTERS.

From Capt. W. E. Baker, Engineers, Supt. of Canals and Forests in Scinde, dated Kurrachee, October 3rd, 1844, intimating that he is about to forward a report on the survey of the Alla Bund in Kurrachee, &c. &c., and likewise expressing a wish to become a member of this Society.

From Dr. C. F. Collier, dated Intrenched Camp, Hydrabad, October 23rd, 1844, informing to remit or send an order for fifty rupees on account of his subscription due to the Society, and likewise introducing Major Brook and Lieut. Phayre, both anxious to become members of the Society.

It was moved by Capt. Ross, and seconded by J. P. Willoughby, Esq., Secretary to Government, that the Governor-General be requested to become patron, and the Governor of Bombay vice-patron, of the Society; this was the arrangement which had existed under the governorship of Sir R. Grant, when

the Governor-General had on all occasions expressed his anxiety for the welfare of the Society, and his desire to forward its prosperity.—It was resolved that hereafter the papers forwarded to the Society, and considered worthy of publication, should be sent to press so soon as it was determined to have them printed; so that the Transactions would thus be issued periodically so soon as a sufficiency of papers were printed as to make a number of 150 or 200 pages. A statement of the papers now in hand, and of the condition of the funds, shewed that this plan could easily be carried out, and that probably another No. would have passed through the press by January or February.—A lengthened proposition was laid before the Society on the subject of Tidal and Meteorological observations. A general resolution having been passed in favour of the proposition, the President, Captain Ross, was appointed to draw out details to be laid before Government. The leading objects contemplated, were the establishment of Tide-Guages at Aden and Kurrachee, on the shores of Cutch or Goozerat, and on the Malabar Coast, &c. &c.; with small meteorological observatories wherever these could be got established. It was believed that were the Bombay Government applied to on this point they would readily give that assistance in forwarding the objects in view invariably bestowed by them on physical research. Some discussion having arisen as to whether the Government of Scinde should not be applied to, it seemed to be considered more becoming to apply in the first place to the local Government, under whose more immediate auspices the Society had flourished—so that, in the event of their approval being obtained, application might be made through or by them to the proper quarter. It was understood that the Governor of Scinde was most anxious for the promotion of all such enquiries, and that any application made to him was likely to meet with the most favourable consideration.

THE Bombay Geographical Society held its Ordinary Quarterly Meeting in its Rooms, Town Hall, on Thursday the 6th February, 1845, at 3 o'clock P. M.—J. P. Willoughby, Esq., Vice President in the chair.—Present: Dr. J. W. Winchester; Lieut. G. Jenkins, I. N.; John Smith, Esq.; S. S. Dickinson, Esq.; Dr. J. Burnes, K. H.; and George Buist, Esq., LL.D., Secretary.

The Minutes of the last Meeting were read and approved of. With reference to the appointment of Captain D. Ross to consider and report on the proposition laid before the former meeting on the subject of the expediency of applying to Government for assistance in the organization of a Survey on Tidal and Meteorological phenomena, the Secretary stated that there was no written communication from Captain Ross on the subject; all that had been considered necessary by that gentleman was, that the general principle should be recommended, leaving to Government the arrangement of details. It appeared to the Meeting that if so much only was forwarded in the shape of recommendation, it would only be productive of trouble and delay. Government could not but be in favor of the principle of promoting such investigations as those recommended: their objections, if they had any, must be based on the expense or difficulty of carrying the wishes of the Society into effect. The Secretary having

read the subjoined Memorandum on the subject, it was agreed that a copy of this should be forwarded to Government, through the Secretary for the General Department:—

Memorandum as to the best method of carrying into effect the recommendations of the Geographical Society, in reference to the establishment of a system of Tidal and Meteorological observations.

It must in the first place be kept in mind, that the scheme the Society has in view is wished to be carried out without any regular establishments, and at scarcely more cost to Government than the price of the instruments, and loss of the services of some dozen or two European soldiers temporarily detached from their regular duties.

The first set of Hourly Meteorological observations extant till the British Association devoted its energies to the subject, is that made under direction of Sir David Brewster, by the Privates and Non-Commissioned Officers at Leith Fort —published in the Transactions of the Royal Society.

Where there is energy, ability, and zeal, in the cause, such researches will readily be pursued without other stimulant than the permission or recommendation of Government: where amateurship is wanting, all the machinery which could be looked for from Government would be found insufficient for the object in view. The only documents extant in reference to the climate of Aden, are the records of the observations of Corporal Moyes, of H. M.'s 17th Foot—copies of a portion of which were laid, with much appreciation, before the Dublin Meeting of the British Association, by the Marquis of Northampton. A large collection of the papers of Mr. Moyes is now in the possession of the Geographical Society. The best account we have of the climate of the Delta of the Indus is comprised in the papers of Mr. Strath, Engineer at Hydrabad to the Steam Flotilla on the Indus. Where amateurs cannot be found willingly to undertake the work, it ought for the present to be delayed.

Aden.—The following is the scheme I would recommend for Aden. Mr. Moyes, who is spoken of by Colonel Pennycuick as a quiet steady soldier, was sent here some time since in charge of Invalids, for the purpose of receiving instructions as to the manner of conducting the work at the Observatory. He, with the assistance of a couple of European soldiers from the 17th and two or three lascars, is quite willing, on being supplied with instruments and relieved from regimental duty, to do every thing that is desired. I should suggest that a Tide-Guage with suitable apparatus—such as is described in my article on Tides in our Transactions—should be sent to Aden and set up by the Engineer Officer on the spot. It should be eminently desirable, indeed, to have two sets of Tidal observations instituted at Aden, as the Tides seem to follow very different laws at the opposite sides of the Peninsula; this depending on the state of the Monsoon in the Arabian Sea. As also a Barometer, four Thermometers, and a Rain-Gauge. A well chuppered tent would be perfectly sufficient for an observatory, and ruled schedules of observations should be returned every Mail to Bombay. Colonel

Pennycuick states that there would be no difficulty or inconveniency in detaching the required number of men on separate duty, by the permission of the Commander-in-Chief. The whole of the observations must be made every hour, day and night, for the space of one year at least.

Kurrachee.—I am not at present aware of any amateur at Kurrachee. The Tide-Gauge could be put under the charge of the Conductor always on duty at Minora Point : indeed, as it requires only to be looked at once a day, any lascar could be taught to change the card—say at sunset or sunrise daily—and wind up the clock, which is all that is requisite. The Tidal returns should be made daily to the party in charge of the meteorological observations in camp, and by him forwarded monthly to Bombay.

Hourly Meteorological observations can only be conducted, without an establishment, where European sentries are constantly on duty. I would suggest that an observatory tent, chuppered, and with a wooden ceiling of four or five feet square just over the instruments, should be placed in the vicinnage of some sentry post; and that the serjeant in charge should be directed to see that the observations were noted every hour. This could be done by the men on guard—the serjeant being responsible. Meteorological instruments are so easily read that there would be little risk of any material error. The whole might be taken charge of by any officer at the station who had a fancy for this species of study, and could see that the men were properly instructed and did their duty.

It would be eminently desirable that observations on the periodical rise and fall of the River Indus were made at Hydrabad as well as at Sukkur. The distance to which the land and sea breezes are felt inland; as well as that to which the Barometer is affected by the setting in of the S. W. Monsoon; are points of great interest, which might be fully inquired into. Mr. Strath would, I know, be delighted to take charge of the observations.

It was stated that H. M. 17th was about to be withdrawn from Aden; and that before the services of Mr. Moyes could be made available he must be transferred to H. M. 94th about to be quartered there. This could be effected by the order of the Commander-in-Chief, Mr. Moyes consenting on making application to that effect. The Society would willingly take upon itself as many of the details as it could carry through, especially those as to the providing of instruments and furnishing instruction and forms for observations, and in seeing that these were duly attended to and returned filled up. The state of its funds, now chiefly occupied in printing its Transactions, hardly permitted of pecuniary liabilities being incurred.

The following donations were then laid on the table :—

PAPERS.

By Government.—Memoir on the Charts of Rutnageeree, Rajapoor, Viziadroog and Dewgurr, drawn up by Lieutenant C. W. Montriou, I. N.; with a letter from E. W. Townsend, Esq., Secretary to Government, dated 21st November, No. 4213 of 1844.

read the subjoined Memorandum on the subject, it was agreed that a copy of this should be forwarded to Government, through the Secretary for the General Department:—

Memorandum as to the best method of carrying into effect the recommendations of the Geographical Society, in reference to the establishment of a system of Tidal and Meteorological observations.

It must in the first place be kept in mind, that the scheme the Society has in view is wished to be carried out without any regular establishments, and at scarcely more cost to Government than the price of the instruments, and loss of the services of some dozen or two European soldiers temporarily detached from their regular duties.

The first set of Hourly Meteorological observations extant till the British Association devoted its energies to the subject, is that made under direction of Sir David Brewster, by the Privates and Non-Commissioned Officers at Leith Fort —published in the Transactions of the Royal Society.

Where there is energy, ability, and zeal, in the cause, such researches will readily be pursued without other stimulant than the permission or recommendation of Government: where amateurship is wanting, all the machinery which could be looked for from Government would be found insufficient for the object in view. The only documents extant in reference to the climate of Aden, are the records of the observations of Corporal Moyes, of H. M.'s 17th Foot—copies of a portion of which were laid, with much appreciation, before the Dublin Meeting of the British Association, by the Marquis of Northampton. A large collection of the papers of Mr. Moyes is now in the possession of the Geographical Society. The best account we have of the climate of the Delta of the Indus is comprised in the papers of Mr. Strath, Engineer at Hydrabad to the Steam Flotilla on the Indus. Where amateurs cannot be found willingly to undertake the work, it ought for the present to be delayed.

Aden.—The following is the scheme I would recommend for Aden. Mr. Moyes, who is spoken of by Colonel Pennycuick as a quiet steady soldier, was sent here some time since in charge of Invalids, for the purpose of receiving instructions as to the manner of conducting the work at the Observatory. He, with the assistance of a couple of European soldiers from the 17th and two or three lascars, is quite willing, on being supplied with instruments and relieved from regimental duty, to do every thing that is desired. I should suggest that a Tide-Guage with suitable apparatus—such as is described in my article on Tides in our Transactions—should be sent to Aden and set up by the Engineer Officer on the spot. It should be eminently desirable, indeed, to have two sets of Tidal observations instituted at Aden, as the Tides seem to follow very different laws at the opposite sides of the Peninsula; this depending on the state of the Monsoon in the Arabian Sea. As also a Barometer, four Thermometers, and a Rain-Gauge. A well chuppered tent would be perfectly sufficient for an observatory, and ruled schedules of observations should be returned every Mail to Bombay. Colonel

Pennycuick states that there would be no difficulty or inconveniency in detaching the required number of men on separate duty, by the permission of the Commander-in-Chief. The whole of the observations must be made every hour, day and night, for the space of one year at least.

Kurrachee.—I am not at present aware of any amateur at Kurrachee. The Tide-Gauge could be put under the charge of the Conductor always on duty at Minora Point : indeed, as it requires only to be looked at once a day, any lascar could be taught to change the card—say at sunset or sunrise daily—and wind up the clock, which is all that is requisite. The Tidal returns should be made daily to the party in charge of the meteorological observations in camp, and by him forwarded monthly to Bombay.

Hourly Meteorological observations can only be conducted, without an establishment, where European sentries are constantly on duty. I would suggest that an observatory tent, chuppered, and with a wooden ceiling of four or five feet square just over the instruments, should be placed in the vicinnage of some sentry post; and that the serjeant in charge should be directed to see that the observations were noted every hour. This could be done by the men on guard—the serjeant being responsible. Meteorological instruments are so easily read that there would be little risk of any material error. The whole might be taken charge of by any officer at the station who had a fancy for this species of study, and could see that the men were properly instructed and did their duty.

It would be eminently desirable that observations on the periodical rise and fall of the River Indus were made at Hydrabad as well as at Sukkur. The distance to which the land and sea breezes are felt inland; as well as that to which the Barometer is affected by the setting in of the S. W. Monsoon; are points of great interest, which might be fully inquired into. Mr. Strath would, I know, be delighted to take charge of the observations.

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PAPERS.

By Government.—Memoir on the Charts of Rutnageeree, Rajapoor, Viziadroog and Dewgurr, drawn up by Lieutenant C. W. Montriou, I. N.; with a letter from E. W. Townsend, Esq., Secretary to Government, dated 21st November, No. 4213 of 1844.

By the Author.—Meteorological Return from Aden for the months of October and November 1844. By Corporal Moyes.

BOOKS.

By Dr. J. Wilson, D. D.—The North British Review Advertiser. Edinburgh, May, 1844.

By the Author.—General Index to the contents of the first ten Volumes of the London Geographical Journal. Compiled by Lieutenant-Colonel J. R. Jackson, Secretary to the Royal Geographical Society.

By Dr. Martin, at Calcutta.—Almanack der Koniglichen Bayerischen Akademie der Wissenchaften für das schalt. Jahr, 1844.

By the Secretary to the Library of the Literary Society—Cairo, Egypt.—Miscellanea Ægyptiaca Consociatio Litteraturae. Séance du 2nd Mai, 1842.

By the Medical Board, with the sanction of the Hon'ble the Governor in Council.—Report on the Medical Topography and Statistics of the Southern Division of the Madras Army in 1843. (2 copies.)

Report on the Medical Topography and Statistics of the Provinces of Malabar and Canara in 1844. (2 copies.)

Report on the Medical Topography and Statistics of the Ceded Districts in 1844. (2 copies.)

LETTERS.

From C. J. Erskine, Esq., Private Secretary to the Hon'ble the Governor, dated Government House, Parell, 12th November, 1844, giving information that the Governor has great pleasure in accepting the office of Vice Patron to the Society, and that—"The important duties by which His Excellency is so constantly occupied, will, he is afraid, prevent him from taking such an active part in the proceedings of the Society as he would otherwise have been happy to do: but he will at all times have great pleasure in promoting its welfare to the utmost, and in lending his aid to extend as widely as possible the sphere of its utility."—His Excellency also returned his best thanks for the copy of the Society's Transactions which accompanied the Secretary's letter of the 9th November, No. 45 of 1844.

From J. P. Willoughby, Esq, Chief Secretary to Government, No. 3733 of 1344, dated the 7th December, informing the Secretary that Government have been pleased to accept the Society's offer, "on the subject of supplying Government with 300 printed copies (stitched separately) of the Memoir drawn up by Captain G. LeG. Jacob upon the general condition of the Province of Katteewar, at an expense of Rs. 150, and as it is desirable that the Map of this province which forms an accompaniment to Captain Jacob's Memoir should be stitched up with the Pamphlet, the Superintendent of the Government Printing Establishment has been instructed to cause 300 copies of this Map to be Lithographed and sent to the Society for the above purpose."

From Sir Charles Malcolm, dated London, N. S. Club, October 30th, 1844—thanking the Society for a copy of their Transactions from 1841 to 1844.—He was happy to see that the contributors continued to give their aid to the interests of the

Journal, and regretted that any circumstance should have occurred to delay the prosecution of his friend Lieutenant Christopher's discovery of the Haines River, as it appeared to him to have been an object of great interest to Government that some one equal to so useful a work as penetrating into Eastern Africa by the great River, should be ordered to undertake it as an object of geographical science.

From Lieutenant-Colonel W. H. Sykes, dated London, India House, 23rd November, 1844—thanking the Society for a complete set of their Transactions. He will not fail to notice the observations in the Society's report for May 1844, and will always be ready to aid the useful objects of the Society.

From James C. Melvill, Esq., dated London, East India House, 18th October, 1844—thanking the Society, in the name of the Court of Directors of the East India Company, for a complete set of their printed Transactions, which accompanied the Secretary's letter, No. 37 of the 24th August 1844.

From the Right Honorable Lord Auckland, dated London, Kensington Grove, December 2nd, 1844—thanking the Members of the Society for copies of the printed Transactions of the Geographical Society, and for the kind recollection on the part of the Society of the favorable view which he took of its labors whilst he held office in India. He finds them to contain matters of high value, and well calculated to carry out the objects for which the Society was founded, and heartily wishes it a long continued success in the prosecution of its important researches; and concludes the letter by thanking the Society, and acknowledging the Secretary's letter of the 24th of August last.

The following papers were presented and placed in the hands of the Committee for publication :—

By Government.—Report from Lieutenant J. C. Cruttenden, I. N., on the Mijjerthein Tribe of Somallees inhabiting the district forming the North-East point of Africa.

By Government.—Report drawn up by Captain G. Le G. Jacob, 1st Assistant to the Political Agent at Rajcote in charge, upon the general condition on that date of the Province of Katteewar, and containing various points of information, principally of a geographical and statistical nature, connected with that interesting province.

By the Author.—Remarks on the Alla Bund, and on the drainage of the Eastern part of the Scinde Basin—with Meteorological observations at Kurrachee in Scinde, from 1st May to 13th October 1844, and Meteorological Observations of Sukkur and a Register of a Watergauge in the Indus, from 1st May to 30th September 1844. By Captain W. E. Baker, Engineers.

By the Author.—Account of collection of Geological Specimens, (for presentation to the Museum of the Bombay Asiatic Society,) with that of an ancient Jain Temple situated at the Junction of the Gutpurba, about three miles south west of Gokank in the Belgaum collectorate, by Lieutenant C. P. Rigby, 16th Regiment N. I.

By the Author.—Observations on the Runn, by Captain G. Fulljames—with a rough sketch of the Camp at Kusba on the north side of the large Runn.

The following Gentlemen were elected Members of the Society:—

W. E. Frere, Esq., proposed by Mr. Secretary Buist, and seconded by J. P. Willoughby, Esq.; C. J. Erskine, Esq., proposed by S. S. Dickinson, Esq., and seconded by Dr. J. Burnes, K. H.

The Secretary stated that Captain G. Le G. Jacob's paper on Guzerat was so full of minute and elaborate tables as to have occupied a much longer time in printing than was anticipated. The expense was very much greater than was estimated, in so much that in supplying Government with the copies desired, a higher rate of charge than was contemplated would require to be made: it would still be very much lower than that at which Government could have printed it in a separate form for themselves. Copies of the Map had been furnished for the Government part of the impression: a Map on a reduced scale more suitable for the Transactions, would be got up for the Society.

The General Report of the Secretary indicated a high degree of prosperity in the funds, and of success in the exertions of the Society, and the Meeting then adjourned.

THE Ordinary Annual Meeting of this Society took place on Thursday the 15th May, at 3 o'clock P. M.—Captain D. Ross, I. N., F. R. S., President in the Chair.—Present: J. P. Willoughby, Esq.; Dr. J. Burnes, K. H.; Dr. John Scott; S. S. Dickinson, Esq.; R. W. Crawford, Esq; Dr. J. Bird; and Commander H. B. Lynch, I. N., Acting Secretary.

A letter was read from Dr. Buist, the Secretary to the Society, regretting his inability, from severe domestic affliction, to be present at the meeting, or to draw up and lay before them, as intended, the customary report on the labours of the Society and state of its affairs, and the progress of geographical research within the sphere of its operations. The letter also intimated that Dr. Buist was about to depart immediately for England for a period of six months, in the hopes that the healing hand of Providence, and soothing influence of time, might in some measure restore to him the use of his faculties now prostrated and paralyzed by calamity. Captain Lynch, Deputy Superintendent of the Indian Navy, having been elected to act as Secretary to the Society during Dr. Buist's absence, the following resolution was recorded, and a copy ordered to be extracted and transmitted to the Secretary:—

"That the acting Secretary be directed to express to Dr. Buist the regret with which they view his departure, and their sympathy with him in the distressing events which have led to their being deprived for a time of his valuable assistance."

The minutes of the Society having been read, it was intimated that a letter had been duly forwarded to Government, as formerly directed, on the subject of the researches in Physical Geography—chiefly hydrographical and meteorological—desired to be undertaken under the superintendence of the Society, but that

no reply had hitherto been received. These chiefly related to the establishment of small observatories for meteorological observation, provided with self-registering Tide-gauges, at Aden, Kurrachee, Gogo or Surat, and two other points on the Malabar Coast to the Southward of Bombay. The scheme was detailed at length, and an estimate of the outlay required for carrying it out, in the Secretary's letter—a copy of which was laid before the meeting. The Secretary had provided four tide-gauges on his own account, to be placed at the disposal of the Society when required. These had a rived in Rombay some time since : they were very beautiful and perfect instruments, and it was thought probable that Government would possess themselves of them for the purpose of investigating the anomalies in the tides around Bombay and on the adjoining coast. Nothing could be done in this matter on the large scale contemplated by the Society during the S. W. Monsoon now close at hand; and as the scheme was that of the Secretary, it would in all probability not be proceeded with till his return. Should Government desire the tide-gauges referred to for the important local researches recommended by the Chief Engineer, and which certainly demanded priority of attention, other instruments for more remote observation could be provided from home by the time they were required. The acting Secretary was directed to re-call the attention of Government to the subject.—A further report on the printing of the Transactions stated that much delay had been occasioned in consequence of the intricacy and elaborateness of the tables contained in Captain Le Grand Jacob's report on Katteeawar ; but that it was now far advanced and proceeding rapidly, so that a number comprising all the papers considered worthy of publication laid on the table of the Society up to the present time, would in all likelihood be in the hands of members before next quarterly meeting.—No reply had been received from the Governor-General on the subject of his nomination as patron of the Society.—The following donations were then laid upon the table : the thanks of the meeting were ordered to conveyed to the donors respectively :—

PAPERS.

By Government.—Report on Malwan Iron Ore, dated East India House, 18th December, 1844, by Dr. J. Forbes Royle, on the specimens collected by Dr. Gibson ; accompanying a letter to the Managing Directors of the new British Iron Company, dated Pontypool, 27th November, 1844, from W. Wood, Esq.,—with a letter from Mr. Secretary Escombe, dated 10th March, No. 769 of 1845, General Department.

By the Author.—Meteorological Tables showing the Temperature and Pressure of the Atmosphere at Ellichpoor, deduced from observations taken by Assistant Surgeon Bradley, Nizam's Army.

By the Author.—Ellichpoor's Mean Hourly and Daily Curves of the Barometer, taken by Dr. W. H. Bradley.

By the Author.—Meteorological Returns from Ellichpoor for the months of March and April, 1845, by Dr. W. H. Bradley.

By the Author.—Meteorological Returns from Aden, for the months of December 1844, and January 1845, by Corporal W. Moyes.

BOOKS.

By Government.—Thornton's [E. Esq.] History of the British Empire in India, 5 vols, with Maps, and a Gazetteer of the countries adjacent to India on the North West, including Scinde, Affghanistan, Beloochistan, the Punjaub and the neighbouring states, in 2 vols. with Map—with a letter from Mr. Secretary Escombe, dated 28th February, No. 655 of 1845.

By the Author.—Beke's [C. T. Esq.] Statement of facts relative to the transactions between the writer and the late British Political Mission to the Court of Shoa—with a letter dated London, 20th January, 1845.

By the Society.—The twenty-sixth Report of the Bombay Auxiliary Bible Society for 1844.

By the Royal Geographical Society of London, through Messrs. Briggs & Co.—The Journal of the Royal Geographical Society of London, vol. 14th, Part 1st of 1844, and an Address to the Anniversary Meeting of the Royal Geographical Society, dated the 27th May 1844. By R. J. Murchison, Esq., V. P. R. S. &c., President.

By the Société de la Asiatique de Paris, through the Royal Geographical Society of London.—Journals Asiatique, ou Receuil de Memoires, &c. &c., Tome 2nd, No. 10, Decembre, 1843—Tome 3rd, No. 11, Janvier, Février, 1844—and Tome 3rd, No. 12, Mars, 1844.

By the Société de la Geographique de Paris, through the Royal Geographical Society of London.—Collection Geographique de la Bibliotheque Royale, en 1842. Collection Geographique de la Bibliotheque Royale, année 1843. Second voyage a la Recherche des sources du Bahr-el-abiad ou Nil-blang ordonne par Mohomed Ali, Vice-Roi D'Egypte—Documents et observations sur le cours du Bahr-el-abiad ou dufleuve blang, &c. par M. D'Arnande—Lettre sur l'utilite des Musees ethnographiques, et sur l'importance de lear creation dans les etats Europeans qui possident des colonies, &c., par M. Ph. Fr. de Siebold—and Notice Biographique sur Venture de Paradis.

LETTERS.

From L. C. C. Rivett, Esq., Superintendent Government Printing Establishment, dated the 1st March, No. 33 of 1845—informing of the instructions received by him from Mr. Secretary Willoughby's Memorandum dated the 7th December last, (No. 3734) to forward to the Secretary to the Bombay Geographical Society, 300 copies of the Map of Kattywar, each containing four separate pieces [which are required to be stitched separately] to the 300 copies of the report drawn up by Captain Jacob, on the same province.

From Comte Auge Dest, President of the "Scientific Commission for the Discovery of American Antiquities," dated Paris, 5th February, 1845, calling on the Geographical Society of Bombay for their sympathy and aid in the proposed un-

dertaking of an expedition composed of English, French, and Germans, about to be organized this year, under the suspices of the above Society, for the investigation of the Antiquities of America.

From P.L. Simmonds, Esq., dated 2nd April, 1845, 18, Cornhill, London, (opposite the Royal Exchange), inquiring whether the Society would be disposed to exchange a copy of its Transactions with him for a copy of his Colonial Magazine published monthly, and showing a great eagerness that a very large number of Foreign and Colonial learned and Scientific Societies would feel proud to be ranked by him as an honorary or corresponding Member of this Society, which has been laid before the Committee of this Society, who have directed the Secretary to accept his polite proposition for the exchange in question.

An abstract of the votes for the Office-bearers for the next year having been made, the following appeared to have been chosen by a majority of votes on the printed lists:—

President.

Captain D. Ross, I. N., F. R. S.

Vice-Presidents.

1. Major-General Vans Kennedy.
2. J. P. Willoughby, Esq.
3. Dr. J. Burnes, K. H.

Resident Members.

1. Dr. J. McLennan.
2. Lieut. Col. P. M. Melvill.
3. Dr. C. Morehead.
4. Commander H. B. Lynch, I. N.
5. Bâll Gungâdhur Shastree, Esq.
6. Major-General D. Barr.
7. J. Bowman, Esq.
8. Rev. G. Pigott.
9. The Hon'ble L. R. Reid, Esq.
10. Dr. James Bird.
11. Major J. Holland.
12. Captain F. L. Arthur.

Non-Resident Members.

1. Major H. C. Rawlinson.
2. Major R. Leech.
3. Capt. G. L. G. Jacob.
4. Capt. E. P. Del'Hoste.
5. Lieut. Col. O. Felix.
6. Capt. R. Shortreed.
7. Lieut. J. C. Cruttenden, I. N.
8. Captain G. Fulljames.

An audit committee having been appointed on the finances, gave a very gratifying account of the state of the funds of the Society.

Annual Statement of Receipts and Disbursements of the Bombay Geographical Society, from 1st May 1844 to 30th April 1845.

1845.		DISBURSEMENTS.	Rs.	A.	P.
April 30th.	To	Printing..	1,515	0	0
,,	,,	National Atlas of Historical, Commercial, and Political Geography, by A. K. Johnston, Esq..	100	0	0
,,	,,	Establishment	561	0	0
,,	,,	Contingent expenses..	86	0	11
			2,265	0	11
,,	,,	Amount taken on loan from this Society's funds to defray the balance of Mr W. Brown's (undertaker's) bill for the erection of the Mural Tablet in St. Thomas's Cathedral to the late Dr. J. F. Heddle, Secretary..	168	10	10
			2,433	11	9
,,	,,	Balance in favor of the Society this date..	1,519	1	6
		Rs.	3,952	13	3

1844.	RECEIPTS.	Rs	A.	P.
July 31st.	By balance in the hands of the Treasurers this date... ..	1,704	7	9
1845.				
April 30th.	„ Amount of Government Subscriptions for 12 months, at 50 Rupees per mensem..	600	0	0
„	„ Of subscriptions of Members for this year..	1,523	0	0
„	„ Of printed Copies of this Society's Proceedings sold.. ..	114	2	5
„	„ Ditto of 2 copies of the Royal Geographical Society's Journal sold..	6	0	0
		3,947	10	2
„	„ Balance of subscriptions of members to Sir A. Burnes's Portrait, in the hands of the Treasurers..	5	3	1
		Rs. 3,952	13	3

(Signed) GEO. BUIST,
Bombay, 30th April, 1845. Secretary to the Society.

An application from Mr Simmonds, to the effect that he should receive a copy of the Society's Transactions regularly as issued, in return for one of his *Colonial Magazine*, was directed to be complied with.

THE Ordinary Quarterly Meeting of this Society took place on Thursday the 7th August, 1845, at 3 o'clock P. M., in the Society's Rooms Town Hall—Captain D. Ross, I. N., F. R. S. President in the chair. Present: Dr. J. Burnes, K. H.; R. W. Crawford, Esq.; Manockjee Cursetjee, Esq.; and Captain H. B. Lynch, I. N., Acting Secretary.

The Minutes of the last Anniversary Meeting, held on the 15th May last, were read and approved. The undermentioned gentleman was duly admitted a Subscriber to the Society—Ali Mahomed Khan, Esq., proposed by Captain H. Blosse Lynch, I. N., Acting Secretary, and seconded by Dr. J. Burnes, K. H., Vice President. The following donations were then laid upon the Table, and the thanks of the Meeting were ordered to be conveyed to the donors respectively.

PAPERS.

By the Author, through the Vice-President, J. P. Willoughby, Esq.—A Geographical Table, shewing the fifty-six Original Divisions of Bharata Khanda, now called Northern Hindoostan, together with its division under the Mahomedans, and the present division under the British Government; prepared by Cavelly Venkata Ramaswamy, Pundit, C. M. R. A. Society—with a letter from the Author, dated Bombay, 2nd June, 1845, stating that the above table was prepared by him during his tour to Hindoostan, and requesting the Society to furnish him with 200 copies for the use of the Literary Society of Madras, in case they deem it worthy of publication.

By the Author (3rd portion.)—Continuation of Desultory Notes and Observations on various places in Guzerat and Western India. By John Vaupell, Esq.,—with a letter dated 10th June, 1845,—expressing a hope that they would be in time to appear with the 2nd portion of the same which is now in type and about to appear in the forthcoming volume of the Society's Transactions—also transmitting a *Sketch* of the Islands of Salsette and Bassein, illustrative of the 3rd portion of the notes, drawn by Native artists, of which he begs the Society's acceptance, and states his not having received any acknowlegment of the 2nd portion of the

Notes from the late Secretary Dr. Buist, and requests that he might be furnished with the same. Mr. Vaupell also expresses to the Society a hope of his being able to furnish them with a 4th portion of these Notes.

By the Author.—Meteorological Return from Aden for the month of February, 1845. By Corporal W. Moyes, H. M. 17th Regiment.

By the Author.—Meteorological Observations at Fort George Barracks, for the month of June, 1845. By Corporal W. Moyes, 17th Regiment.

By the Author.—Meteorological Register kept, and Horary Barometrical Observations taken, at Ellichpoor, for the months of May, June, and July, 1845. By Assistant Surgeon W. H. Bradley, 8th Regiment Nizam's Infantry.

BOOKS.

By Government.—A brief Historical Sketch, prepared by Captain D. C. Graham, of the 19th Regiment Bombay Native Infantry, Commandant of the Bheel Corps in Candeish, of the Bheel Tribes inhabiting that Province, accompanied by an outline of the principles of the conciliatory line of policy which has been observed towards these rude tribes by the Bombay Government since the year 1824-25. With a letter from J. P. Willoughby, Esq., Chief Secretary to Government, dated the 24th May, No. 2496 of 1845.

By the Royal Geographical Society of London, through Messrs. Spong and Turner.—General Index to the contents of the 1st ten volumes of the London Geographical Journal, compiled by Colonel J. K. Jackson, Secretary to the Royal Geographical Society; and the journal of the Royal Geographical Society of London, Part 2nd of vol. 14th, of 1844. With a letter dated London, 28th December, 1844, from Col. J. K. Jackson, acknowledging the receipt of the Society's letter of the 24th of August last, and thanking them for the printed Transactions, and intimating that the Society would receive therewith a parcel and a letter from the French Ambassador in London, forwarded from the Minister of War at Paris, &c. &c.

By the Ambassadeur de France, through the Royal Geographical Society of London—with a letter dated Herlfori house, de 20th Decembre, 1844. "Dictionaire Francais, Berbere (Dialecte Ecrit et parle par les Kabailes de la division D'Alger) ouvrage compose par order de M. le Ministre de la Guerre," and "Rudiments de la langue Arabe de Thomas Erpenious traduits en Francais, accompaynes de Notes et suivis dun supplement indiquant les differences entre le langage litteral et la langage vulgaire, par A. E. Hebert, capitaine du genie."

By the Medical Board, with the sanction of the Hon'ble the Governor in Council.—Stewart's [Duncan, Dr.] Report on Small Pox and Vaccination from 1827 to 1844 in Bengal; and Medical Topography, Northern, Hyderabad, and Nagpore divisions, the Tenasserim Provinces, and the Eastern Settlements. With a letter dated 28th July, No. 727 of 1845, from the Secretary to the Medical Board.

MAP.

By the Author.—Map of part of Lower Scinde, shewing the intersection of the Allah Bund by the Goonee and Pooran Rivers, drawn and surveyed by Captain

W. E. Baker, Bengal Engineers, Director Ganges Canal—with a letter from the author dated Hindwan via Saharunpoor, 10th June, 1845, intimating that the Map in question is illustrative of a paper on the Alla-Bund, which was presented by the author to the Society in the month of October last, and stating that Mr. Secretary Buist requested him to get the Map lithographed in Calcutta, but omitted to mention who were the Society's Agents at that Presidency, and how many copies of the Map would be required: also that he had written to the Secretary for information on these points as soon as he reached Calcutta, but had received no reply prior to the note above mentioned. Having been appointed to the Northern Doab, and being 1000 miles from Calcutta, he could not conveniently superintend the lithographing of the Map, and has therefore thought it better to transmit to the Secretary the original.

LETTERS.

From Lieutenant-Colonel P. M. Melvill, Secretary to Government, dated 6th June, No. 871 of 1845—acknowledging the receipt of a letter dated 25th March last, No. 10, with its enclosure, to the address of Mr. Secretary Escombe, stating that the Government of Scinde, and the Political Agent at Aden, had been respectively addressed on the subject of establishing a system of Tidal and Meteorological observations at Mandavee, Kurrachee, and Aden, and expressed the intention of Government to render any assistance that might be required to carry out the object in question.

From John Vaupell, Esq., dated 17th June last, acknowledging the receipt of a duplicate copy of Dr. Buist's letter to his address of the 5th August, 1844, the original of which he regretted to state he had never received, and intimating his gratification that the portion of the Notes alluded to had safely reached the Society.

From W. H. Payne, Esq., dated Rajapoor, the 17th May, 1845, to the address of Dr. Buist, forwarding a bottle of Water from the Hot Spring at that place, and expressing a hope that he would profit by Dr. Buist's remarks upon its chemical properties, and tests as to the mineral substance it contains, &c. Mr. Payne also states that the volume and temperature of the water continue the same throughout the year, and that, with the exception of an occasional ablutionary act performed at it, the spring is not resorted to for either sacred or secular proposes by any persons.

From Ball Gungadhur Shastrie, Esq., dated the 29th July, 1845, requesting that his name might be withdrawn from the list of this Society's members.

The meeting then adjourned till the first Thursday of November next.

THE Ordinary Quarterly Meeting of this Society took place on Thursday the 6th November, 1845, at 3 o'clock P. M., in the Society's Rooms, Town Hall—Captain D. Ross, I. N., F. R. S., President in the Chair. Present: Dr. J. Burnes, K. H.; J. P. Willoughby, Esq.; Ali Mahomed Khan, Esq.; and Captain H. B. Lynch, I. N., Acting Secretary.—The minutes of the last Quarterly Meeting held

on the 7th August last, were read and approved.—The following donations were then laid upon the table, and the thanks of the meeting were ordered to be conveyed to the donors respectively :—

PAPERRS.

By the Author.—Some account of the Topography and Climate of Chikuldah, situated on the Table Land of the Gawil Range, by Assistant Surgeon W. H. Bradley, Bombay Army, at Ellichpoor—with the following papers, viz., A plan of the Plateau of Chikuldah—Section of a portion of the Gawil Range in the direction of its dip—Abstract of Thermometrical Observations made at Chikuldah and Ellichpoor, simultaneously, 1843-44—Chart, exhibiting the variations of the Thermometer at Chikuldah and Ellichpoor, noted simultaneously, 1843-44—Chart of the Temperature of Chikuldah and Ellichpoor, taken simultaneously, shewing the range of each month, 1843–44—Two papers of drawings of specimens of Minerals and Shells—and two notes dated Ellichpoor, August 21st and September 22nd, 1845.

By the Author.—Meteorological Register kept, and Horary Barometrical and Thermometrical Observations taken, at Ellichpoor, for the months of August, September, and October 1845. By Assistant Surgeon W. H. Bradley.

By the Author.—Meteorological Observations taken at Fort George Barracks, Bombay, for the months of July and August, 1845. By Sergeant W. Moyes, H. M.'s 17th Regiment.

By the Author, through J. P. Willoughby, Esq., Chief Secy. to Govt.—Remarks on a singular Hollow twelve Miles in length, called the " Boke," situated in the Purantej Purgunnah of the Ahmedabad Collectorate, by Captain G. Fulljames. accompanying a sketch of the Boke near Purantej Kusba large Lake.

BOOKS.

By Government.—" American Sumach" [From Part 2nd, Vol. 4th, Journal of the Agricultural and Horticultural Society of India.] Correspondence relative to the valuable properties of the American Sumach, or Dividivi, (Cœsalpinia Coriaria) as a tanning plant. Communicated by Dr. N. Wallich,—with a letter dated 8th September, No. 4358 of 1885, from E. H. Townsend, Esq., Secretary to Government.

By the Royal Geographical Society of London, through Messrs. Spong and Turner.—The Journals of the Roy al Geographical Society of London, Volume 13th, Part 2nd of 1844, and Volume 15th, Part 1st of 1855.

By the Société de Geographie de Paris, through the Royal Geographical Society of London, and A. S. Ayrton, Esq., Attorney at Law.—Extrait des Bulletin de la Societe de Geographie. Rapport au nom de la commission der prix annuel pour la de converte la plus importante en geographie en 1841. Commissaires: M. M. Eyries, Walckenaer, Larenandiere, Danssy Jomard, rapporteur. Appendice, Progres de la collection Geographique de la Bibliotheque Royale en 1844—Bulletins de la Societe de Geographie. Troisieme serie. Tomes 1st & 2nd of 1844.

By the Société de Asiatique de Paris, through the Royal Geographical Society of London, and A. S. Ayrton, Esq., Attorney at Law.—Rapport annuel Fait a

la Societe Asiatique dans la Seance generale du 10th Juillet, 1844, Par M. J. Mohl, membre de l'institut, Secretaire adjoint de la Societe Asiatique—Journal Asiatique, ou Receuil de memoires d'extraits et de notices relatiss a l'histoire, a la philosophie, aux langues et a la litterature des peuples orientaux &c., Quatrieme Serie. Tome 3rd No. 13, Avril.—Tome 4th No. 16, Juillet.—Tome 4th No. 17, Aout.—Tome 4th No. 18, Septembre, Octobre.—Tome 4th No. 19, Novembre. —Tome 5th No. 20, Decembre 1844.—Tome 5th No. 21, Janvier—and Tome 5th No. 23, Avril, Mai, 1845,—with a letter dated Paris, le 7th Avril, 1845.

By the late Major R. Leech, C. B, Bombay Engineers, 1st Assist. to the Governor-General's Agent on the N. W. Frontier.—Six manuscript books in Persian character, viz. 1, Vit Kievitch's Cabool, compiled in 1837-38, under that officer's orders at Cabool, incomplete. 1 Memorandum of a tour thro' the Turkisthan States, and 1 an account of Cafiristhan, by Rujubalee of Cabool in 1837; 1 History of the conquest of parts of Caffiristhan, 1 an account of Beistar drawn up by a Mulla of that country in 1838, and 1 Geographical Notice of the Punjaub drawn up in 1835, making in all 5 volumes—accompanying 2 Maps of the River of Cooner, one in the Persian character and the other in English, with a letter dated Umballah, 7th August 1845.

LETTERS.

1. From Lieut.-Col. P. M. Melvill, Secretary to Government, Marine Department, No. 1243, dated 21st August, 1845—communicating, for the consideration of the Society, copy of a letter Nos. 57 and 12, dated Aden, 23d July, 1845, from the Political Agent at Aden, relative to the proposal to establish a system of Tidal and Meteorological Observations at Aden, to be made in two places, one near the Western point and the 2nd on "Seera Island," to be placed under the Senior Naval officer, and that Mr. Moyes, of Her Majesty's 17th Regiment, superintend the Eastern experiments, assisted by two men of H. M.'s 94th Regt. and 3 Tent Lascars. The Political Agent, Captain Haines, I. N., also offers some observations on the difference in the atmospheric influence on the mercury within Aden and at the western point.

2. From E. H. Townsend, Esq., Secretary to Government, Political Department, dated 23rd August, No.4068 of 1845, intimating the receipt from the Society, of 300 printed copies of Capt. LeGrand Jacob's Report dated 4th Oct. 1842, on the condition of the Province of Kattywar at that period; and stating that the General Pay Master has been instructed to Pay to the order of the Society's Secretary, the sum of Rupees 150, the price agreed on by the Society for the printing of the Memoir in question.

3. From John Shillinglaw, Esq., Assist. Secretary to the Royal Geographical Society of London, dated 15th October, 1844, acknowledging a present to it of the Transactions of this Society from 1836 to May 1844, and expressing its best thanks for the donation.

From Ali Mahomed Khan, Esq., dated 20th August, 1845, expressing his thanks for the honor of having been elected a member of the Society.

From R. Burton, Esq., Acting Secretary of the "Scinde Association," dated Kurrachee, 21st October, 1845, forwarding copy of the resolutions passed at the first Meeting of that Society, and expressing an opinion that, as the objects of the Association in many points correspond with those of the Geographical Society, it would be advantageous to both institutions to aid each other in their respective views.

From J. P. Willoughby, Esq., Chief Secretary to Government, dated 29th October, No. 4894 of 1845, requesting that the Original Report of Captain G. Le G. Jacob, late 1st Assistant to the Political Agent in Kattywar, upon the general condition of that Province during the year 1842, forwarded to the Society on the 5th November, 1844, might be returned.

From Captain A. McD. J. Elder, acting Secretary to the Military Board, dated 4th November, No. 4436 of 1845, requesting that the Society would be good enough to state whether certain Instruments, such as Barometers and Thermometers &c. &c., are procurable in Bombay, and where and at what prices.

Resolved unanimously—That the Society record in their proceedings the deep regret with which they have learned the demise of Major R. Leech, C. B., whose lamented death has deprived the Society of one of its most eminent Members.

Resolved.—That the Society's Transactions shall be published as soon after a sufficient number of papers of interest be received to form a Journal of from 160 to 200 pages.

The Meeting is adjourned till the first Thursday of February next.

A Quarterly General Meeting of the Bombay Geographical Society was held in the Town Hall on Thursday the 5th Feb.—Captain Ross, *President*, in the Chair. PRESENT.—Captain Sir R. Oliver; J. P. Willoughby, Esq., Secy. to Government; Dr Burnes, M. D., K. H., F. R. S.; Dr J. Bird, Secy. Asiatic Society; Dr Glen, Member of the Medical Board; Dr McLennan, Superintending Surgeon; S. S. Dickinson, Esq., Sheriff of Bombay; Dr C. Morehead; Dr Geo. Buist; Ali Mahommed Khan, Esq.; and Captain Lynch, *Acting Secretary*.

The Minutes of last meeting having been read, the following books and papers were laid on the table of the Society. Thanks were directed to be conveyed to the donors respectively.

PAPERS.

By the Acting Secretary (R. Burton, Esq.) to the Scinde Association.—A lithographed copy of the Resolutions passed at a General Meeting of the Association held at Kurrachee on Saturday the 8th November, 1845.

By the Author.—Meteorological Observations taken at Bombay, Fort George Barracks, for the months of September and October 1845. By Sergeant W. Moyes, Her Majesty's 17th Regiment.

By the Author, through Lieut.-Col. P. M. Melvill, Secretary to Government.—Meteorological Register kept, and Horary Barometrical and Thermometrical Observations taken, at Ellichpoor, for the months of November and December,

1845. By W. H. Bradley, Esq., 1st Assistant Surgeon 8th Regiment Nizam's Infantry.

BOOKS.

By Government.—A Printed copy of the report of Major A. C. Peat, C. B., Superintendent of Roads and Tanks, for the year 1843-44; with a Letter, No. 3466, dated 10th November, 1845, from W. Escombe, Esq., Secretary to Government.

By the Société de Asiatique de Paris, through Messrs. W. Nicol & Co.—Journal Asiatique ou Recuil de Memoires, d'extraits et de notices relatiss a l'histoire, a la philosophie, aux langues et a la litterature des Peuples Orientaux &c. &c. Tome 6, No. 25, Juilet, and No. 26, Aout, 1845.

LETTERS.

From Major-General Vans Kennedy, dated 1st Dec. 1845, returning to the Society the six Persian Manuscripts sent to him on the 10th November last for his inspection and opinion as to their nature and value. General Kennedy kindly provides brief notes on each, and intimates that the whole are more or less imperfect from parts being wanting, and expresses an opinion that the only manuscript that appears to be deserving of Translation is that numbered four by him in pencil, being "An account of Journies to Turkistan, the Mountains of the Kafirs, made in company with Dr. Lord"—and which also is represented as imperfect at the end.

From Dr. George Buist to Captain H. B. Lynch, I. N., acting Secretary to the Bombay Geographical Society, dated the 3rd February 1846—transmitting copy of lithographed correspondence between himself, the Lords Commissioners of the Admiralty, Colonel Sabine, &c., on the subjects of Tidal and Meteorological Observations in India.

In reference to a letter from Captain Burton, accompanying a report of the Society at Kurachee, and soliciting assistance and co-operation, it was resolved that a copy of the Transactions of the Bombay Geographical Society should be transmitted to the Kurrachee Association, and that the Secretary should be directed to convey the best wishes of the Society for the success of the researches in Scinde, and an expression of the anxiety experienced to aid them and co-operate with them in any way that might be suggested.

The following letter from Dr Buist was then read by the acting Secretary :—

To Captain H. B. LYNCH, *Acting Secy. Geographical Society.*

BOMBAY, *February* 3, 1846.

SIR,—I have the honour to enclose, for perusal of the Committee, a printed copy of a memorial addressed by me to the Admiralty, together with their reply, on the subject of Tidal and Meteorological observations formerly forming the subjects of our correspondence with the Bombay Government.

The correspondence arising therefrom is so voluminous, and operations so multiplied and complex, that I have considered it expedient to have it lithographed in the shape of a narrative, with relative documents, so that a copy may be left with each of the members of the committee.

The matters will come on for discussion at the meeting of the 5th, and I deeply regret that a load of other duties has prevented me from placing the whole in your hands earlier, so as to leave time for its examination.

I may state shortly, that my application was made to the Lords of H. M.'s Admiralty, in consequence of the warmth with which our project was taken up and commended by one of their Engineers, on whose recommendation my further proceedings were adopted.

The scheme, as laid before their Lordships, is much more extensive than that originally contemplated; but we are left untrammelled, to work it out according to our views—they undertaking to supply us with what instruments may be desired, to the extent of £350. I am of course ignorant of the nature or extent of the arrangements which have been made during my absence, but rejoice to observe that the execution of a portion of our scheme is now in progress; Government apparently having entered fully into our views.

Captain Beaufort, Hydrographer to the Admiralty, and Colonel Sabine, R. A., superintendent of the magnetic and meteorological observatories conducted under the Governments of Her Britannic Majesty and the Hon'ble the East India Company, are the parties at home under whose superintendence all our operations are to be placed; and I may state that at a parting interview with these gentlemen, I had the promise of the most extensive countenance and support if necessary—much beyond that contemplated in my memorial,—with the assurance that every effort would be made at home to smooth away any obstacles or difficulties that might occur.

Colonel Sabine, in expressing himself of the merits of the scheme in a manner too flattering to be repeated, intimated that as it was to him the Admiralty would look for the home division of the labour, that he would look upon me personally as the party in India on whom all responsibilities should devolve.

The Admiralty expressed themselves solicitous for copies of our transactions, and I undertook to have them sent punctually to the Library in Whitehall, as well as to the Hydrographer personally.

I have the honour to be, Sir, your obedient servant,

GEO. BUIST.

To the Committee of the Bombay Geographical Society.

BOMBAY, *February 4th*, 1846.

GENTLEMEN,—In acknowledging your kind and feeling letter of the 16th of May, I beg to intimate to you my return to the Presidency, and my readiness to resume my duties as your Secretary.

I have to offer my most grateful thanks to Capt. Lynch for the kind manner in which he came forward to tender his assistance to me, and the very able service he has rendered to me in my absence.

I must take leave to crave your attention to the following narrative and correspondence—hoping that the arrangements I have endeavoured to make with the view of promoting the objects of the Society, may meet with your approbation.

It will be remembered by most of you, that the following entries were made in our Minutes on the 6th February 1845:—

"With reference to the appointment of Captain Ross, to consider and report on the proposition laid before the former Meeting, on the subject of the expediency of applying to Government for assistance in the organization of a Survey on Tidal and Meteorological phenomena, the Secretary stated that there was no written communication from Capt. Ross on the subject: all that had been considered necessary by that gentleman was, that the general principle should be recommended, leaving to Government the arrangement of details. It appeared to the Meeting that if so much only was forwarded in the shape of recommendation, it would only be productive of trouble and delay. Government could not but be in favor of the principle of promoting such investigations as those recommended: their objections, if they had any, must be based on the expense or difficulty of carrying the wishes of the Society into effect. The Secretary having read the subjoined Memorandum on the subject, it was agreed that a copy of this should be forwarded to Government through the Secretary for the General Department.

"Memorandum as to the best method of carrying into effect the recommendations of the Geographical Society, in reference to the establishment of a system of Tidal and Meteorological Observations.

"It must, in the first place, be kept in mind, that the scheme the Society has in view is wished to be carried out without any regular establishments, and scarcely more cost to Government than the price of the instruments, and loss of the services of some dozen or two European soldiers temporarily detached from their regular duties.

"The first set of hourly Meteorological observations extant, till the British Association devoted its energies to the subject, is that made under direction of Sir David Brewster, by the privates and non-commissioned officers at Leith Fort, published in the Transactions of the Royal Society.

"Where there is energy, ability, and zeal, in the cause, such researches will readily be pursued without other stimulant than the permission or recommendation of Government: where amateurship is wanting, all the machinery which could be looked for from Government would be found insufficient for the object in view. The only documents extant in reference to the climate of Aden, are the records of the observations of Corporal Moyes, of H. M.'s 17th Foot; copies of a portion of which were laid before the Dublin Meeting of the British Association by the Marquis of Northampton. A large collection of the papers of Mr. Moyes is now in the possession of the Geographical Society. The best accounts we have of the climate of the Delta of the Indus is comprised in the papers of Mr. Strath, Engineer at Hydrabad to the Steam Flotilla on the Indus. Where amateurs cannot be found willingly to undertake the work, it ought for the present to be delayed.

"*Aden.*—The following is the scheme I would recommend for Aden. Mr. Moyes, who is spoken of by Colonel Pennycuick as a quiet steady soldier, was sent here some time since in charge of Invalids, for the purpose of receiving instructions as to the manner of conducting the work at the Observatory. He, with the assistance of a couple of European soldiers from the 17th and two or three lascars, is quite willing, on being supplied with instruments and relieved from regimental duty, to do everything that is desired. I should suggest that a Tide-Gauge, with suitable apparatus—such as is described in my article on Tides, in our Transactions—should be sent to Aden, and set up by the Engineer Officer on the spot. It would be eminently desirable, indeed, to have two sets of Tidal Observations instituted at Aden, as the Tides seem to follow very different laws at the opposite sides of the Peninsula, this depending on the state of the Monsoon in the Arabian Sea: as also a Barometer, four Thermometers, and a Rain-Gauge. A well chuppered tent would be perfectly sufficient for an observatory; and ruled schedules of observations should be returned every Mail to Bombay. Colonel Pennycuick states, that there would be no difficulty or inconveniency in detaching the required number of men on separate duty by the permission of the Commander-in-Chief. The whole of the observations must be made every hour, day and night, for the space of one year at least.

"*Kurrachee.*—I am not at present aware of any amateur at Kurrachee. The Tide-Gauge could be put under the charge of the Conductor always on duty at Minora-Point: indeed, as it requires only to be looked at once a day, any lascar could be taught to change the card—say at sunset or sunrise—daily, and wind up the clock, which is all that is requisite. The tidal return could be made daily to the party in charge of the meteorological observations in camp, and by him forwarded monthly to Bombay.

"Hourly meteorological observations can only be conducted, without an establishment, where European sentries are constantly on duty. I would suggest that an observatory tent chuppered, and with a wooden ceiling of four or five feet square just over the instruments, should be placed in the vicinnage of some sentry post; and that the serjeant in charge should be directed to see that the observations were noted every hour. This could be done by the men on guard—the sergeants being responsible. Meteorological instruments are so easily read, that there would be little risk of any material error. The whole might be taken charge of by any officer at the station, who had a fancy for this species of study, and could see that the men were properly instructed and did their duty.

"It would be eminently desirable that observations on the periodical rise and fall of the River Indus were made at Hydrabad as well as at Sukkur. The distance to which the land and sea breezes are felt inland, as well as that to which the Barometer is affected by the setting in of the S. W. Monsoon, are points of great interest, which might be fully inquired into. Mr. Strath would, I know, be delighted to take charge of the observations.

" It was stated that H. M.'s 17th was about to be withdrawn from Aden ; and that before the services of Mr. Moyes could be made available, he must be transferred to H. M.'s 94th about to be quartered there. This could be effected by the order of the Commander-in-Chief—Mr. Moyes consenting on making application to that effect. The Society would willingly take upon itself as many of the details as it could carry through, especially those as to the providing of instruments and furnishing instructions and forms for observations, and in seeing that these were duly attended to and returned filled up. The state of its funds, now chiefly occupied in printing its transactions, hardly permitted of pecuniary liabilities being incurred "

Up to the beginning of May we had received from the Bombay Government no official answer to our letter of 25th March, though we were under the impression that this arose from no coldness or indifference to the scheme we had laid before them, but that so soon as circumstances permitted, our application would receive that kind and considerate regard always manifested by them in the advancement of philosophical inquiry.

On intimating my intention of retiring for a time from Bombay, I stated to you that—" Government had been written to at length, in compliance with the resolution of the Society on the subject of researches (Tidal and Meteorological) in Physical Geography,—the letter book will shew the tenor of my communication ; but no answer has as yet been received. I have already provided Tide-Gauges, four in number, at Rs. 120 each. These Government are, I believe, likely to appropriate for observations at or near Bombay ; and if so, a further supply can be obtained in England. The monsoon is now so near at hand, that it is probable no progress will be made in this matter till next cold weather ; and I trust the Secretary will write to me in England, where I may be able to forward the views of the Society ;" and I imagined, therefore, that arrangements on this head would for a period pause. On my way homewards I happened to meet with Mr. W. Scamp, Admiralty Engineer, on his return from Malta, where he had just had charge of the construction of a dock, costing nearly a million sterling.

The state of Geographical research in the East happening to form subject of conversation between us, I placed a copy of your Transactions in his hands, when the subject of the above-quoted minutes came more immediately to be discussed. He stated that there was nothing from which marine engineers received greater annoyance than from the loose and careless way in which facts such as those we were in quest of, were collected, and that the Admiralty had often issued instructions, and were perfectly willing to incur any reasonable cost for instruments, but unless when amateurs were met in with devoted to such investigations, their purposes were almost invariably frustrated. He quoted many instances coming within the sphere of his own observation, illustrative of his statement,—instances which were afterwards multiplied to me beyond belief by engineers of much talent and experience. Without troubling you with details, I may take leave I trust to

lay before you the following letter addressed to him by me at his suggestion :—

" W. SCAMP, *Esq.*, *Engineer*, No. 2 Hanover Street, Regent Street, London,

" *Tagus Steamer, off Gibraltar, July* 5, 1845.

" DEAR SIR,—On reflecting over the subject of the conversation which the other evening occurred betwixt us, in reference to the importance of concerted Tidal and Meteorological Observations in the Eastern Seas, to the Ships of H. M.'s Navy in foreign parts, and the encouragement likely to be given to the prosecution of them by the Lords of the Admiralty, it has occurred to me that it might be expedient to lay before you in written form the scheme already placed in the hands of the Bombay Government by the Bombay Geographical Society; as well as to submit to you some suggestions as to what might, with much advantage, be effected in this department of Physical Geography, were the Society above named provided with the means.

" I may premise that the Bombay Geographical Society, of which I have the honor to be Secretary, consists of about one hundred members,—is provided with rooms by Government free of all expense,—and possesses an income of about £250, arising chiefly from the subscriptions of the members, and almost entirely expended in the publication of its papers.

" The condition of the Tides in the air and ocean from Cape Comorin to Suez, along the Malabar Coast, Scinde, the Persian and Arabian shores, was the grand point desired to be investigated by the Society; but it was considered expedient to broach only a small portion of the plan at a time to Government; and the present was considered a very favourable opportunity for the prosecution of these researches, when two vessels belonging to the Indian Navy were engaged on surveys, the one to the south, and the other to the westward, of Bombay. Where Tidal observations were in progress, Meteorological research to a limited extent could be prosecuted with little extra trouble or expense; and the investigations of the Currents and Tides of the atmosphere is matter of importance scarcely second to the determination of the epochs, the intensity and direction of those of the ocean. A memorial was forwarded, to the best of my recollection in the month of February, to the effect that Government should cause small Meteorological and Tidal Observatories to be fitted up and provided with instruments—as many of these as possible being self-registering—at Back Bay and Front Bay, Aden; at Kurrachee, in Scinde; at some point between Mandavie in Cutch, and Bombay; and at a port to the southward. The instruments were to be selected, and the observations to be conducted, under the superintendence of the Society, and at the expense of Government. The Tide-Gauge at the Bombay Observatory was intended to be the general standard of reference.

" We had much reason to believe that the most favorable consideration would be given to the proposals; but at the time of my quitting India no answer had been received. As the scheme was in a great measure my own, and intended to be worked out under my immediate superintendence, it was recommended at

the meeting of the Society which took place on the 15th May, that all the arrangements referring to it should be deferred till my return.

"The Government of India have at all times been most favorable to the prosecution of scientific research; but the cumbrous forms of office, the extreme slowness with which business not municipal or political advances in India, and the stringency with which, in all financial matters, the hands of the Governments of Madras and Bombay are tied up, renders the result of any such application as that lately made, ultimately doubtful and dilatory—the grant when given, being frequently small in amount and loaded with restrictions.

"From what you stated as to your views of the importance of such things to the Royal Navy, and the likelihood of any suggestion you may make regarding them being favorably listened to by the Admiralty, I am led to lay the following propositions before you.

"*First.* That the scheme of observation already partly entertained, and in part proposed to the Bombay Government, shall be now taken up entire under the direction of the Bombay Geographical Society, and controul of the Admiralty and local Government.

"That, conformably with this, a set of self-registering Tide-Gauges shall be established at Point de Galle in Ceylon, Mangalore, Vingorla, Domus (near Surat,) Dieu, Mandavie in Cutch, Kurrachee in Scinde, Sonmeanee in Beloochistan, some port near the mouth of the Persian Gulf, at Maculla in Arabia, Back Bay and Front Bay, Aden, Mocha in Arabia, and Suez in Egypt. Corresponding observations at Alexandria, Malta, and Gibraltar, would make the line nearly complete. The Tides at Cochin have already been investigated by a Gauge under direction of Mr. Taylor, Astronomer, Madras; and this instrument is now at Bombay under orders to be set up in the Gulf of Cutch.

"At these stations respectively meteorological observations ought to be made with the Barometer, Ombrometer, Thermometer, and self-registering Animometer. The additional expence will be inconsiderable, and the information that may be looked for of the greatest interest and value, not only in general physics, but as tending to the elucidation of the laws which regulate aerial currents, for the information and advantage of the mariner. These observations to be continued for the space of not less than two years, commencing if possible in 1846.

"The expence of the instruments, and other pecuniary outlay, to be defrayed by the Admiralty. The Bombay Government to afford all the assistance in its power which can be supplied by the use of its vessels, and by placing uncovenanted servants, non-commissioned officers and privates, at the disposal of the Geographical Society, in so far as the good of the service is not thereby interfered with; and fitting up the instruments, or adapting or constructing places for their reception.

"The whole outlay required for two years' observation only—the cost of instruments, which will be restored uninjured to the Admiralty or taken off their hands

at prime cost, can scarcely exceed £500; and the money will be most rigidly and faithfully accounted for under any guarantee that may be desired.

"The Society will undertake not only for the general supervision of the execution of the scheme, but for the collection, reduction, and publication, of the observations; no charge whatever beyond that for actual outlay being imposed by it on the Admiralty, and no recompense or requital being accepted of by any of the officers of the Society.

"Should a favourable view of these things be taken, it would be most important that sanction should be given as early as possible to the execution, in whole or in part, of the scheme now detailed, so as to enable me to have the requisite instruments constructed under my own superintendence, or at all events put in hand before my departure for India on the 1st November.

"I can only address you in the capacity of an individual, but believe I am guilty of no act of presumption in pledging myself to the extent I have done for the Society. Had the subject been placed before me before leaving Bombay in the light in which you have now placed it, I should have been enabled to have addressed you in behalf of the Geographical Society, and as their official organ.

"I have the honor to be, Sir, your very obedient servant,

"GEO. BUIST."

Mr. Scamp, on his return to England after an absence of some duration, and from avocations of the greatest importance, was for a time so much occupied, and the superiors of his department at this period so engaged with matters of more urgent moment, that my letter for a season fell aside. In the month of October the subject was revived: I had the honor of being introduced to various officers in the Admiralty, and, in laying the proposition before them, was received with every mark of kindnesss and consideration, and requested to bring the subject before their Lordship by memorial. On the 16th of October, accordingly, the following Memorial was addressed to them:—

"*To the Hon. the Lords of Her Majesty's Admiralty,*

"*The Memorial of Dr.* GEORGE BUIST, *Secretary to the Bombay Geographical Society, late Secretary to the Agricultural Society of Western India, and lately in charge of the Government Observatory at Bombay,*

"SHEWETH,

"That your Memorialist has, for many years, devoted himself with zeal and success to the prosecution of Physical research, especially in various departments of the Sciences connected with Natural History and Natural Philosophy. That, while in charge of the Bombay Observatory, upwards of three hundred thousand observations in Magnetism and Meteorology were made by him, or under his direction, and are now about to be printed under his superintendence by order of the Hon'ble the Court of Directors.

"That the Bombay Geographical Society has of late resolved to direct its energies to several branches of research in Physical Geography (greatly in need of elucidation), referring particularly to the direction and velocity of tidal currents;

to the epochs and amount of high water; the state of the aqueous and aerial currents along the coasts of Western India, Scinde and Beloochistan, Persia and Arabia, from Bombay to the mouth, or if possible to the upper end, of the Red Sea.

"That a scheme of observation (an outline of which is subjoined) was, some ten or twelve months since, drawn up by your Memorialist, and adopted by the Geographical Society; and that its execution would in all likelihood have now been in progress had the requisite funds been forthcoming. The revenues of the Society, mainly arising from the private contributions of a very limited number of members, are chiefly swallowed up by the printing charges incurred in the publication of its transactions.

"That the Bombay Government, which has at all times shewn the utmost anxiety for the promotion of such researches, and which is understood to be eminently favourable to the present scheme, is so hampered in its resources, that complaints are constantly being made of the want of instruments and men of science set apart for their own use in their own surveying vessels. Besides the attainment of a large mass of information in Physical science, it is thought likely that much useful knowledge might be expiscated, for the practical purposes of navigation, by the enquiry contemplated. It is proposed that the expense of providing instruments shall be borne by the Lords of the Admiralty; and that the service of vessels required for their transport, and those of non-commissioned officers and men for the work of observation, shall be provided by the Bombay Government—the Geographical Society pledging itself for the faithful administration of the funds, and careful and diligent use of the instruments, entrusted to them; and undertaking for the organisation, working out, and superintendence, of the scheme, and for the collection and publication of the observations, without any charge or requital whatever.

"SCHEME.

"A self-registering tide-gauge has been set up at the Government Observatory, and an elaborate set of Meteorological observations, begun under the superintendence of your Memorialist, has been ordered to be continued for an indefinite period of years. The Observatory is proposed to be considered a standard of reference, and the observations there made the general model for those to be elsewhere registered.

"The positions of observations recommended are—1*st*, at Suez, at the upper, and, 2*d*, at Aden (where two tide-gauges would be required), at the lower, extremity of the Red Sea; 4*th*, at Muscat; 5*th*, at Bushire, in the Persian Gulf; 6*th*, on Minora Point, at the mouth of the Indus; 7*th*, at Mandavie in Kutch; 8*th*, at Pore Bunder in Goozerat; 9*th*, at the mouth of the Taptee, near Surat; 10*th*, at Vingorla; 11*th*, at Mangalore, on the Malabar coast; and 12*th*, at Point de Galle, in the Island of Ceylon—being 12 points in all, requiring 13 tide-gauges, at the cost of about £10 each.

"That, besides these, a barometer, a wet and dry bulb, solar and terrestrial radiation thermometers, a wind and rain-gauge, should be established—the cost

of these instruments at each Observatory being about £25 or £30, or probably £350 in all.

"A small cottage or thatched tent, to be erected by Government for the reception of the instruments and occupation of the observer, who should be provided, under orders of the Commander-in-Chief or Superintendent of the Indian Navy, from the unemployed men of the station. It will be remembered that the earliest, and one of the best, sets of hourly Meteorological observations in existence, was conducted, under the superintendence of Sir David Brewster, by the privates of Leith Fort garrison.

"The erection and establishment of the Observatory would be seen to by the Geographical Society, which would take charge of all details, and see that the schedules, properly filled up, were punctually returned.

"In laying this scheme before your Lordships, your Memorialist is precluded, by the brevity and suddenness of his visit to this country, to act by direction of the Society, whose wishes he feels assured he is expressing. He returns to India by the steamer of the 3d December; and should the present memorial be honoured by a favourable notice, would respectfully impress upon your Lordships the necessity of giving it the earliest attention that may be permitted, so as to enable him, before his departure, to arrange for the procurance of proper instruments.

"That your Lordships may give a speedy and favourable consideration to this scheme, and so authorise the expenditure of such a sum as may be considered expedient for the promotion of these views on the conditions specified—namely, that the Bombay Government and Geographical Society undertake the share of the labour which has been assigned to them—is the respectful prayer of your Memorialist." "(Signed) GEO. BUIST."

To assist in procuring early attention to this, I had written to, or communicated with, Sir R. Oliver, Sir C. Malcolm, the founder of our Society, Col. Sabine, Col. Jackson, Ccl. Sykes, Col. Dickinson, Sir D. Brewster, Sir C. Forbes, and others, and had the gratification to find the views of each and all of them concurrent with those entertained by me. Luckily, there was no occasion for the interposition of their good offices, their Lordships having, with the utmost promptitude, cordially given the subjoined reply to the application made to them:—

"*Admiralty, 25th October*, 1845.

"SIR,—I have laid before the Lords Commissioners of the Admiralty your letter of 18th instant, suggesting that a series of observations should be instituted in respect to the Physical Geography of Western India, &c., in conjunction with the Bombay Geographical Society, and that the expense of the Tide-Gauges and other instruments required, estimated at about £350, shall be borne by the Naval department; and I am commanded by their Lordships to acquaint you that they are willing to accede to this proposal, and request you will charge yourself with the procuring the instruments. My Lords request you will take the trouble of calling on their Hydrographers at this office on the above subject.—I am, Sir, your most humble servant, (Signed)."

In compliance with the direction at the conclusion of the letter, I waited on Captain Beaufort, and subsequently on Colonel Sabine, on my return to London in the end of November, and had with both long and satisfactory conferences on the subject of the memorial. It was suggested by the former that Egypt if possible, Alexandria in particular, should be included in the scheme of observation; and I recommended Gibraltar, and Malta, the Ionian Islands, and as many other points on the line being looked forward to as likely to be ultimately included. It was explained that on our side three or four observatories only would at first be established, and that the others would come in as we could overtake them; and after it had been discovered what cost might be incurred, and what results obtained from those first established; that in the mean time so many of the instruments as were to be paid for by the Admiralty might be made use of on the European side, trusting that should the objects likely to be achieved prove worthy of advancement, further supplies might be obtained.

It was agreed that Mr. Stirling should supply the Tide and Wind-Gauges, Mr. Adie of Edinburgh the other instruments, provided the specimens sent in by them should prove satisfactory. I once more took counsel on these matters with Colonel Jackson and Col. Sykes, who expressed their most cordial wishes for our success. I waited on Sir C. Malcolm, and was waited on by him, but had not on this occasion the fortune to meet with him.

On my way out I met in with Mr. White, a very extensive ship-builder, on his way to examine into the feasibility of erecting slips at Gibraltar, who gave me a long list of instances in which the Service had suffered for want of the information we were in quest of. He gave me much encouragement, and afterwards very valuable assistance. The following letter was written after my enquiries at Gibraltar had been completed.

I have the honour to be, Gentlemen, your very obedient servant,

GEORGE BUIST.

"*Colonel* SABINE, R. A., *Woolwich, London.*

"NEAR MALTA, *16th December*, 1845.

"DEAR SIR,—I enclose you a copy of a letter to Mr. Adie on the subject of Instruments to be provided for the Admiralty's observations. Will you kindly correct any thing which may appear to be wrong in my suggestions, or add any thing that may be awanting, and address Mr. Adie on the subject. I have sent the letter to him, of which yours is a duplicate, by this day's mail.

"It does appear to me that were fitting instruments supplied them, and proper care taken, a great deal might, on many occasions, be made of observations taken on ship-board. I see no reason why Captains should not be supplied with books of forms such as those used at Bombay, on which each day's work might be registered, reduced, and the curves set down at once—industrious officers would give monthly abstracts as well, and so on landing produce a volume fit for use.

"If you think well of this suggestion, you have only to say so. We have

plenty of enthusiastic amateur observers in every department of science in our ships. Of course a great multitude of failures must be looked for; but the amount of good to be done by the remainder is surely worth the exertion requisite for its attainment. There is every disposition in all public departments in Bombay to forward scientific investigation, though delays sometimes occur which it would be desirable to avoid.

"The Oriental Steam Navigation Company and their officers seem very keen and zealous on the point,—and they have vessels at all times traversing the whole line of the Mediterranean, Red Sea, Arabian Gulf, and Bay of Bengal: it would surely be well to make a beginning at all events.

"We got to Gibraltar at noon on the 10th, and I immediately called on Colonel Harding. He expressed every wish to forward our views; but his hands were too full to give us assistance in any way. He recommended me to Mr. Grant Dalrymple, an old friend, who had already forwarded some papers to Captain Beaufort, and I found him so enthusiastic an amateur, as to have projected a series of observations on his own responsibility, with instruments purchased at his own expense. A Pluviometric Register has been kept for fifty-nine years;—I did not see the register of this, it being in charge of a Sergeant at a remote part of the works.

"The only other Meteorological Register is that kept at the Library. The Thermometer, Barometer, and Direction of the Wind, are noted four times a-day—viz., at 9 A. M., Noon, 3 and 5 P. M. They have a couple of Barometers of the most common construction, such as are found in farm houses in England—the scale rather rudely cut, reading by use of a vernier to hundredths of an inch. Neither seemed in good condition; the sound of the mercury in the tube of the best indicating a very imperfect vacuum. In the worst there was observed a very large quantity of air—the mercury would not strike the tube at all: it stood 00·60 lower than the other. The Registerer had not made use of the vernier—the readings were set down so many inches, so many tenths, with the readings above tenths extracted and exhibited in vulgar fractions thus: 29·8¼ or 30·1¼—the point at which it stood when I was there. They are in this shape printed daily in the *Gibraltar Gazette*—a small newspaper published at the Garrison Library.

"We are therefore apparently without any record whatever in reference to the Meteorology of Gibraltar.

"In these seas there seemed many things—in reference particularly to the pressure or moisture of the atmosphere—extremely well worthy of observation. It was remarked by Colonel Harding, as well as by Captain Brooks of the *Tagus*, as matter of notoriety, that the Barometer always rose on the approach, and kept very high during the progress, of a gale from the East or South. We experienced a very violent storm of this character just before our arrival and after our departure, during the whole of which the mercury stood betwixt 30°150 and 30°200. A wind from the west, however gentle, invariably sends down the mercury, and so on with winds from various intermediate quarters, where the

mercury is affected by the direction, much more than the force or velocity, of the wind. Does it not seem much more than probable that this is dependant on the quantity of moisture contained in it ?—on the vapour pressure ? and that a very moderate number of good experiments would afford much light on your views on this subject ?

"I found Mr. Dalrymple a most energetic and intelligent person, fortunately enjoying the full confidence apparently of the highest officers in the Garrison.

"The following was the arrangement made betwixt us—pending the approbation of the Admiralty :—

"That on the top of Flagstaff Hill, at an elevation of about 1400 feet, a self-registering Wind-vane should be erected—the forces to be taken by Lind's Gauge, or a force-plate, if you think fit.

"The serjeant in charge to have an entire set of instruments, to be registered hourly under his care.

"2. The same instruments to be observed at the Dockyard, with the addition of a good Tide-gauge. Here the indications of the Wind-gauge attached to it can be of very little value.

"3. A second Tide-gauge to be established on the Neutral ground, to register the fluctuations of the sea in False Bay. The observations at Gibraltar seem of such importance, and Mr. Dalrymple so likely to do full justice to the work, that I think one entire set of spare instruments should be supplied. These he would set up for a time on the Neutral ground, to see what effect was produced on the pressure and moisture of the atmosphere in the various directions of the wind by so large a mass of rock so immediately in the neighbourhood, by which great eddies and whirls might be expected, and a considerable amount of dessication by the precipitation of vapour to be produced.

"Gibraltar indeed appears so singular a place as to be entitled to the benefit of observations, whether the great scheme now projected be carried out or not. Mr. Dalrymple is anxious for schedules in duplicate.

"I think he should, if he desires it, have schedules in triplicate—one for his own use, one for us at Bombay, and one to be sent to you direct. If he will take the trouble to keep all these, the cost of the ruled paper can be matter of very small consequence.

"As we of the Bombay Geographical Society have been the projectors of the scheme, I think we are entitled to an early copy of the Gibraltar Observations. But we are so slow and so far away that another copy should unquestionably be sent simultaneously to you. With us it will form part of a system: you may find in the isolated record much that is of value.

"I have written to the gentleman who formerly provided me with Tide-Gauges for Bombay—(James Stirling, Esq., Engineer, Dundee—under whom Mr. Dalrymple studied the earlier portion of his profession,) stating the kind of instruments desired, and instructing him to proceed with one set for Gibraltar the moment he heard from you. The price is £10. The pipe or well

must be got up on the spot;—the plans recommended in the Bombay Geographical Transactions I shall copy out and send to Mr. Dalrymple. I have promised to forward to the Admiralty copies of the Transactions themselves.

"I think the schedules and directions for Gibraltar should be provided by you from home; and might I on this point take the liberty of suggesting, that they should be made out somewhat in the fashion of those adopted by me for Bombay for the year 1844?—copies of the report on which will, I hope, in a few days be in your hands. By this means an industrious man will find no trouble in reducing, abstracting, and diagramising each day's work just as it is completed. It costs but a few minutes daily; it becomes a terrible task when left to the end of the year.

"As the postages of our despatches will be considerable, I trust some method may be devised of permitting them to pass free on H. M.'s service under cover to some one.

"I enclose you also copies of the letter to Mr. Stirling. From this you will observe, that in reference to Gibraltar, Malta, &c., he will await your instructions I have stated that you would get the Copperplates for the Schedules engraven in London.

"I have the honour to be, Sir, your very obedient servant,
(Signed) "GEORGE BUIST."

The following was despatched from Bombay after the conclusion of my voyage and journey:—

"*Colonel* SABINE, *R. A., Woolwich.*

"BOMBAY, *Feb.* 1, 1846.

"DEAR SIR,—I intended to have forwarded you my first letter from Malta, with copies of those to Mr. Stirling and Mr. Dalrymple, when the storm proved too severe to permit me to extend them in a legible shape. I was from this time so occupied with observations and other matters of much urgency, that I have kept back the whole till my arrival here. I shall now resume a narrative of my proceedings from Gibraltar onward. We encountered a very severe storm off Algeria, and did not reach Malta till the morning of the 17th, and were only allowed nine hours on shore. Immediately on landing, I proceeded to present my note of introduction to Mr. Napier at the Dockyard, and found him most anxious to forward all our views. One Tide-gauge seems for the present to be sufficient for him; it will be placed near the Marine Hospital, where the indications of the Wind-gauge will besides be of some value. The whole of the other instruments must be placed at the disposal of the military, and can only be read hourly at some of the main guards. This portion of the matter will be left for you therefore to arrange: I had no introduction to any military officers, and my time at Malta was too short to have permitted much to be done even if I had. There can be no doubt that abundance of amateurs will be found amongst the officers at Malta, ready to enter into our views.

"At Alexandria I found it would be in vain to apply to the Pasha, who, however anxious for the advancement of science, is too much occupied with the affairs of State to do more than give a cordial assent to our projects. Mr. H. Thurburn, an eminent merchant there, at once undertook to have the whole of our scheme carried out; recommending his Agent Mr. Betts, at Suez, as an eminently intelligent person, likely to undertake as much for the upper extremity of the Red Sea, as he was prepared to guarantee for Alexandria. At both these points Tide-Gauges may be established with perfect success: we must abandon the hope of hourly observations, but Mr. Thurburn undertakes to have the Barometer read at the hours of maxima and minima, and the Thermometer at the same hour with the Barometer. By using three pairs of self-registering Thermometers—one pair for temperature in the shade, a second pair moist and dry-bulb, (to be placed close beside these) for hygrometrical purposes; a third and fourth for solar and terrestrial radiation; and reading these at 10 o'clock—the hour of mean temperature—will give us nearly all that can be desired.

"The same remarks apply to Cairo, where Dr. Abbot—Secretary to the Egyptian Literary Institution—undertook to carry out the work as to Aden and Suez. Here I would suggest that a Tide-Gauge should be placed to serve the purpose of a Nileometer, and the velocity of the stream should be taken once a day by log-line, as on ship board, from a boat shoving out to the middle of the river. Mr. Linant—a French Geographer of distinction resident at Cairo—would, I doubt not, most readily see to this department, and have a section of the river Channel most carefully measured, so that the discharge might therefrom be computed;—and I think it more than probable, that either he or Dr. Abbot would undertake the task of determining the quantity of solid matter carried down it—so that a subject with which we are at present very imperfectly acquainted, however much we may chance to talk about it, may be determined with a close approximation to accuracy.

"On my arrival at Aden, I found that I had been in some measure anticipated in the schemes now under consideration—the Geographical Society and Bombay Government during my absence having here arranged every thing most satisfactorily. By this two Tide-Gauges and one of the sets of instruments conceded by the Admiralty will be liberated, and may be applied to other purposes. The Bombay Government instruments to be used at Aden, will of course be sent, like the others, for examination and comparison.

"I have thus gone over nearly all the ground proposed to be traversed where observations in concert with our Indian scheme were intended to be established; and every where have had held out to me the most flattering prospects of entire success.

"I am, Sir, your very obedient servant,

(Signed) "GEO. BUIST."

The contemplated observations on the relative saltness of the different seas, was a proposal subsequently made to the Admiralty, to which no answer had, or could have, been returned: it was of much importance, and likely to be attended with no difficulty; the steamers were already for the most part provided with instruments; the engineers accustomed to the use of them, and ready to give their services; the rest must be matter of private arrangement rather than of official interference. All that was in this case required was to have the instruments, where they existed, compared with some general standard; if wanting, to have them supplied; and in all cases to have ruled schedules, with a few simple instructions, provided. The instruments on board the steamers betwixt Malta and Bombay had already in part been examined and rated, and thermometers supplied those on the other side.

Captain Sir R. Oliver, who was in England at the time these arrangements were in contemplation, had been applied to and rendered every assistance; and in every quarter the greatest kindness and consideration—the utmost desire to assist and promote the scheme—was experienced.

The voluminous correspondence, of which the above is a short outline, was laid on the table. The following resolutions were carried by acclamation:—

Resolved.—That the cordial thanks of the Bombay Geographical Society are due to their Secretary, Dr. Buist, for the able and efficient arrangements effected by him during his short residence in England, in communication with the Lords of the Admiralty, for carrying into effect the views of the Society for obtaining a survey, together with Tidal and Meteorological observations, and for prosecuting other branches of physical research.

Resolved.—That the Society approve and confirm Dr. Buist's proceedings, as detailed in the papers submitted to this Meeting, and at the same time pledge itself to carry out to the fullest extent practicable the scientific and useful objects therein contemplated.

Resolved.—That a letter be addressed to the Bombay Government, explaining, in continuation of their letter of the 25th March 1845, the Society's views now brought to maturity, and soliciting such assistance and co-operation as may be necessary to enable it to conduct with success the important series of experiments indicated.

Resolved. — That in expressing the satisfaction of the Society that Dr. Buist has resumed the office of Secretary, the thanks of this Meeting be conveyed to Captain Lynch for the able manner in which he has officiated in that situation during Dr. Buist's absence in England.

Resolved.—That the cordial thanks of the Society be conveyed to Major-General Vans Kennedy, Vice-President, for the trouble he has taken, and the opinion expressed on the merits of the six Persian Manuscripts forwarded for presentation to the Society by the late Major R. Leech.

It was stated in reference to the publication of the Transactions, that the issue of the number now at press had been delayed by the absence of the Secretary: it was now nearly ready, and would be in the binder's hands in ten or twelve days. Several maps—the most important of which was that for the illustration of Captain Baker's valuable paper on Scinde—were awanting: these would not at present be waited for: this was the first part of the volume, and as the paging would run on, the wanting papers would be referred to in the preface, and come in at the conclusion.

The following members were then elected :—

E. H. Townsend, Esq.; W. Escombe, Esq.; and Lieut. A. B. Kemball—proposed by J. P. Willoughby, Esq., and seconded by Captain H. B. Lynch, I. N.

Captain J. Estridge—proposed by Capt. H. B. Lynch, I. N., and seconded by Dr. J. McLennan.

Lieut. C. G. Constable—proposed by Dr. G. Buist, and seconded by Captain H. B. Lynch, I. N.

Dr. J. Anderson—proposed by Dr. G. Buist, and seconded by Captain H. B. Lynch, I. N.

The Secretary was directed to prepare the letter to Government, and to have it submitted to the Committee before transmission.

TRANSACTIONS

OF THE

BOMBAY GEOGRAPHICAL SOCIETY.

Report drawn up by Capt. G. LE. G. JACOB, *First Assistant to the Political Agent at Rajcote in Charge, upon the General Condition on that date of the Province of Katteewar, and containing various points of information, principally of a Geographical and Statistical nature, connected with that interesting Province.*

[Presented by Government.]

From the Acting Political Agent in Katteewar, to J. P. WILLOUGHBY, Esquire, Secy. to the Govt. of Bombay.

KATTEEWAR POLITICAL AGENCY, RAJKOTE, *4th October*, 1842.

SIR,—I have the honour to submit my report on the general condition of this Province, as called for in the Hon'ble Court's despatch, No. 5, dated 16th April 1834, transmitted with Mr Secretary Norris's letter, No. 1561, of 11th October following, and since periodically required by Government, but which the heavy current work of this agency would appear to have prevented compiling; and I beg to convey, at the same time, such geographical and general information as appears suited to a survey, physical and moral, of the peninsula.

2. In A. D. 1807, Colonel Walker estimated the population, not including Babriawar, Jaffrabad, and Okhamundul, at 1,975,900 souls. In 1831, Mr Blane's census, exclusive of the two last districts, gave an estimate of 1,759,277, and of 4030 towns and villages. My inquiries have produced a lower result, viz.—1,475,685 for the whole of the peninsula under the political agency, inhabiting 3794 towns and villages.

3. Full particulars will be found in the accompanying tables, (Enclosure 1) of which the following is a brief analysis, as regards population:—

Provinces.	No. of inhabitants.
Jhalawar	240,325
Katteewar	189,840
Muchoo Kanta	28,749
Hallar	358,560
Soruth	320,820
Burda	46,980
Gohelwar	247,980
Oond Surweya	11,373
Babriawar, including Jaffrabad	18,468
Okhamundul	12,590
Grand total population	1,475,685

This census is, I conceive, as near the truth as our imperfect means permit: the jealousy of the chiefs prevents accurate returns similar to those obtainable in our own districts, where Government officers have the power to enforce, and the people have no longer the desire to conceal, the truth. My census has been based on the reports of persons in charge of sequestrated districts, on comparison of information obtained from parties possessing most local knowledge, checked by such limited personal inspection as opportunities have afforded me; with the assistance of the statistical tables compiled by Colonel Walker and by Mr Blane, above alluded to: the former estimated the population at the high rate of five souls per house, which partly accounts for the supposed greater population thirty-five years ago—some, whose opinion is of weight, consider the rate of four even to be too high; but the result of scrutiny in a few cases fully bears out this proportion, which was that assumed by Mr Blane.

4. The peninsula may be roughly estimated as containing a surface of 22,000 square miles, and deducting the eastern portion which has fallen under the Ahmedabad collectorate, of 20,000 under this agency, which thus gives an average of a fraction under 74 souls per square mile.

5. The population is composed of the various classes common to other parts of Guzerat, but the proprietors of the soil deserve especial notice, which, considering the changes that have taken place in the structure of society, cannot well be done without a brief sketch of the past history of the peninsula. Only four of the old races—viz. the Jetwas, the Choorasamas, the Solunkees, and the Walas—are now existing as proprietors of the soil, who exercised sovereignty in the country prior to the immigration of the Jhalas, the Purmars, the Kattees, the Gohels, the Juts, the Mahomedans, the Jarejas, and the Marathas, between whom the country is now chiefly portioned out. The Jetwas claim to have held the northern division of the province,

now constituting Burda, Hallar, and Muchoo Kanta, from the two last of which they have been driven by the Jarejas. They profess to be the aborigines of the soil; and I extracted from the genealogical records of the Rana's Wywunchia* the names of 399 generations,† from Hunooman the Monkey God down to the present chief. The son of this deity, mysteriously begotten of an alligator, was the first of the Muggur Dwuj race; he is said to have built Sree Nuggur, whose ruins are shown near Poorbundur. Morvee is attributed to a grandson. After a time the family designation was changed to Koomar, and Goomlee became the capital of this race,‡ on the fall of which, in the 13th century, the diminished clan changed its name to Jetwa, and the chiefs successively occupied Ranpoor, Chaya, and Poorbundur, the present capital. How far the claims of the Koomars to the extensive tract pointed out, may be genuine, no means now exist of ascertaining; but with reference to the Oojen and Anhulwara power over the peninsula in remote ages, it may be described as somewhat doubtful. The Choorasama race, in the opinion of the country, gave rise to the Surweyas, Raejadas, and probably the Wajas: these three still hold possession in the territory originally supposed to have been under the Choorasama rule. The Surweyas give their name to the small province of Oond Surweya, on the banks of the Shetroonjee, and have possessions also in Wallak. The Raejadas are descended from the kindred of Rao Munduleek, the last Rajpoot sovereign of Joonaghur, whose throne and religion were both forced from him by Mahmood Shah Begra about A. D. 1472. A few families now only survive; their chief possessions are at Chorwar, on the west coast. The Wajas have some grass possessions in the lesser Nagher, the narrow tract on the coast between the Geer Hills and the sea. The Grassias of Dholera, in the Gulf of Cambay, and of some villages in that neighbourhood, are of the Choorasama stock. Who the Choorasamas may be, and whence they came, is involved in doubt. It seems probable that they proceeded from, and are identical with, the Chawras, who so long ruled at Anhulwara (Peeran Puttun,) and probably may have held their possessions in the peninsula in fief of that Gadee; and that they were originally the same tribe may be further conjectured from an inscription in a temple at Bilawul, § dated S. 1320, which speaks of the gathering in that neighbourhood of all the Chawra chiefs; indeed, if the present Choorasama

* Genealogist.

† These are chiefly repetitions of the same names in series of three and four: this, however, is still the practice in the country with Rajpoots, Kattees, and Mahomedans.

‡ An account of its ruins was published in the IXth No. of the Royal Asiatic Society's Proceedings, in 1838.

§ This seems the same, at least it agrees in the main points, with that described in the Appendix to Tod's Annals of Rajasthan, vol. i.

stock be not the descendants of the Chawras of that period, whose else can they be, and where are all the Chawra Grassias gone? * The affix Sama or Soma is itself the name of a Rajpoot tribe, and the two may possibly be united in the present Choorasamas: this is, however, a mere conjecture. The Solunkees are supposed to have succeeded the Chawras at Anhulwara, by the authority quoted by Colonel Tod, in A. D. 931—by a genealogical list of the chiefs of that Gadee in my possession, in A. D. 912; but as the succession was effected without warfare, the Chawra or Choorasama fiefs in this country would most probably not only be respected, but their independence might thereby be more established. About twenty families of Solunkees survive in the Joonaghur districts, holding grass possessions—the remnant probably of the Anhulwara power under its changed dynasty. Scarcely anything is left of the Wala race but a family at Dhank, whom the revolutions of centuries have left on the spot they claim as the capital of their tribe when holding power in the country. There is a claim set up for the Walas to the honours of the Wulabhi or Balabhi dynasty, and it seems possible enough that they may have issued from Wulla during the days of its palmy existence, and established themselves at Dhank as an independent power, in the same manner as the Rajpoot Bhayad are wont to do even in the present day. The tradition of the Aheers of the south, of their holding the Walas' grass, shows that their possessions were extensive, and in a measure strengthens their connexion with the old sovereignty of the Mewar family. The Kattee tribe of Wala owes its designation and priority to intermarriage with this race. It seems probable that the rise of the Chawra power at Anhulwara A. D. 746, extinguished that of the Walas. All these races were probably mere waves of the tide of population that appears from of old to have set steadily in to this peninsula from the northward and interior of the continent, but in the absence of data for decided opinions, the Jetwa claim may be entitled to consideration. Physical appearance can scarcely be taken into account in judging of their origin, since the destruction of their females, and constant intermarriage with other Rajpoot tribes, must, in the course of centuries, produce a similarity of appearance. The genius of the lamented James Prinsep in furnishing a key to the characters on the Geernar Rock, near Joonaghur, has thrown a ray of light on the darkness of the ancient history of this peninsula: these hieroglyphics unravelled, show that in the third century before Christ, the power that ruled in Oojen and in Muguda, alike published its edicts at Cuttack in the East, and at Joonaghur in the West, of India, and that the prevailing religion was that of Boodh. In an inscription, whose changed character denotes a somewhat later date, the

* Colonel Walker, quoting from the Mirati Sikundurie, mentions the assertion therein made, of the Choorasamas having possessed the sovereign authority over Soruth for nineteen centuries.

names of other Rajpoot kings of the Chawra tribe, descended from Chundra Goopta, are given, who are spoken of as the restorer of the Geernar Bridge. It may be concluded, therefore, that the peninsula was for some centuries under the power which ruled in Central India. By the authorities quoted by Colonel Tod, the Wulabhi or Balabhi, the present Wulha, another Boodhist or Jain sovereignty, appears to have succeeded as the capital of the peninsula; or it would be nearer the truth perhaps to say the town of most note, founded about A. D. 145 by the ancestor of the Ranas of Mewar. An era sprung from it in A. D. 319, and it was destroyed about A. D. 524. The seat of power appears subsequently removed to Anhulwara,* where the Chawra tribe established itself as previously mentioned. But the landmarks of ancient history are too scattered and few to build more than a plausible theory on them, and successive swarms of barbarians have left scarce a vestige by which to measure the extent and state of the dynasties that ruled over Soorashtra when the favourite idol at Somnath was bathed daily in water brought from the Ganges, and Krishna sported and died in its vicinity.

6. When Mahomed of Ghuznie invaded the peninsula, the Anhulwara Raja advanced to the rescue of Somnath, and inscriptions of the twelfth and thirteenth centuries on the western coast allude to the Anhulwara kings as sovereigns of the peninsula; and much zeal seems to have been expended by them, and by the chiefs of the country, in again setting up their god, and devoting portions of the revenues of the country to its maintenance. The Seeva Singa era, equivalent to A. D. 1113-14, used in two of these inscriptions, may, I think, be attributed to Sidh Raj Jysing of Anhulwara, with whose death—after a reign of 50 years, as recorded in the genealogical list of the dynasty given me by some intelligent Bhats—it very nearly agrees; and its use on the public inscriptions of the country, with that of his name and of his successor, Koour or Koomar Pal, proves some subserviency to that Gadee,† which is further confirmed by the direct assertion of it in the Bilawul inscription (*see note*). It is probable, however, that the peninsula was very partially subject to the Anhulwara Gadee, whose force was moreover broken, and dynasty changed, by the great Iconoclast, so that there was less ability to resist the various tribes who now own the soil, and who appear to have commenced establishing themselves about the period of

* The modern Peeran Puttun, near Deesa.

† Colonel Tod remarks, that this era was founded by the Gohels of the island of Deo, but he appears led into this opinion by mistaking Deo Nugara, the title of Putten on the west coast, to this day called Deo Putten, for the island The connection between the two Puttens is proved by the inscription in a temple at Bilawul, dated with the three eras of Vikrumajeet 1320, Wulabhi 945, Seeva Singa 151, A. H., 662; a curtailed translation of which is given in the appendix to vol i. of the annals.

the Ghuznuvee invasion. To these I now turn; but as they have been separately described in Colonel Walker's reports on the provinces of the country, which chiefly owe their names to them, and in a memoir by Captain Macmurdo, published in the proceedings of the Literary Society of Bombay in 1813, I shall limit myself to brief allusions, touching chiefly on points that have escaped previous notice.

7. The present name of Katteewar for the peninsula, has without due reason been suffered to usurp its correct application of Soorashtra, by which it was known to the Greeks, and is still so to almost every native of Goozerat who can read and write. The term Soruthdes is also to be met with in early inscriptions, and the Mahomedans retained this name for the country when they established their power in it,—a designation that has been retained for the part of the province which still belongs to them. The etymology of Soorashtra is disputed, some affirming it to proceed from *Soo*, good—*Rashtra*, country; whilst others deem it a compound from Soorya, the Sun, which would make it the land of the sun. It is strange that the Kattees, who are greatly inferior to the Rajpoot communities in numbers, territory, wealth, and rank, should have had the honour of conferring their name on the peninsula; and it is to be regretted that its more appropriate and classical name of Soorashtra should not have been reverted to by its new governors instead of still further changing it into its present incorrect designation, which has the further disadvantage of giving rise to mistakes whenever its subordinate province of Katteeawar is alone referred to. On this account, as well as to connect it with its ancient history, I would plead strongly for the restoration of its proper name, which even now is more generally known than its modern and erroneous one.

8. The peninsula is divided into the ten prants (provinces or counties) named in the 3d paragraph of this report: these are of very unequal size and importance, the last three on the list containing only 167 villages between them, whilst Hallar alone contains 942. The boundaries of these prants cannot be traced with precision, owing to the encroachments that have from time to time located the masters of one province within the territories of another. Thus the Jam of Nuwanuggur and the Thacor of Bhaonuggur have established their power in the centre of Katteeawar. The Kattees of the Jetpoor family occupy Mendurra in the midst of Soruth: Jetpoor itself properly belonging to Soruth, and being comparatively a modern acquisition. Wankaneera Jhala principality is on the banks of the Muchoo, and the Mahratta authority, which from a few villages has grown into one of the most powerful states in the country, with its capital at Amrellee, and a revenue of four lakhs of rupees a year, has stretched one of its arms to the western coast.* Political boundaries alone would present a map of the

* Korinar, a Purgunnah now of 65 villages, ceded by the the Nuwab of Joonaghur in A. D. 1811.

country, covered over with a confused net-work of lines, angles, and detached circles, interlacing each other in every conceivable shape—a geographical kaleidoscope: unhappily only the southern, and part of the north-western, portion of the peninsula has yet been surveyed, and this has furnished little beyond the sites of villages, &c. Colonel Walker's reports appear the only authority on the subject, but these give the boundaries somewhat loosely, and the existing maps are still further from the truth; indeed it is a difficult matter to lay down the exact lines of separation between the various prants, and in fixing them as per the map in this report* (Enclosure 2) I have taken the means of divers opinions after repeated discussions with the best informed of the several districts.

9. As reference to the people, or whatever constitutes the fluctuating features of a country, will be more facile, and the subdivisions of territory be better understood, when the fixed land-marks that the surface of the country exposes to view have been previously described, I shall, in the first place, notice these—or, in other words, show the skeleton geography of the Peninsula, filling in the flesh and blood afterwards.

The surface of the country is generally undulating, with low ranges of hills running in very irregular directions: the high land commencing in the N.W., which throws off its waters into the Gulf of Kutch, and into the Arabian Sea, runs easterly to Surdhar, near which it meets with a range, of which Choteela forms the highest point, running in nearly a southerly direction, and circling eastward to a few miles beyond Jusdhun. From this high land proceed all the rivers that disembogue in the Gulfs of Kutch and of Cambay, and into the Runn. This portion of the Peninsula may be deemed the ridge of the tortoise shell which slopes gradually on all sides, but with its least fall towards the S.S.W., Amrellee and Buggussra, which portion may be considered the table land of the Peninsula: hence the waters are thrown off easterly into the entrance of the Cambay Gulph, and westerly between the Geernar and Geer Hills. This last named range interferes to bar the south. The greater and lesser Geer† describe nearly the arc of a circle, broken between Dedan and Wudal, from the convex side of which numerous streamlets, resembling the ribs of an outspread fan, pour themselves into the sea that washes the southern coasts of the Peninsula.

10. I. *Mountains.*—The high land before alluded to, running easterly to the Choteela range, contains no hills worthy of notice. The conical hill above Choteela is perhaps the most conspicuous, and is scarce 400 feet above the level of the ground.

* The existing maps are so erroneous, that no dependence can be placed on them. The attempt to define boundaries thereon must be considered merely as an approach to correctness for the unsurveyed portions.

† So called by some; properly the Wullak Geer or Mordhar range.

II. The Geernar clump, near Joonaghur, is the most important in height, in historical associations, and in structure. A bold mass of granite rises almost perpendicularly several hundred feet, intersected with thin lamina of quartz in diagonal and nearly parallel directions. Its highest peak is about 3500 feet above the level of the sea. On approaching it from the city it resembles the Lingum in the centre of the Yonee, for it rises from a basin formed by a circular rim of hills: these have four narrow entrances, called ghauts, nearly at the four points of the compass, through which the basin is entered: the hill rim or ridge on its western side rises into a rival mountain, dedicated to Jumeel Shah, a celebrated Mahomedan Peer, whose shrine on the top cures the leprous and the blind to this day, if we may believe both Hindoo and Mussulman tales. The eastern or the Geernar mountain, called in Sanscrit Oojyunt, rises into three lofty peaks, besides a few lesses ones, each sacred to a deity. The Brahmins, the Jains, and the Mussulmans, rival each other in devotion to their sanctity.* Macmurdo was mistaken in connecting the Geernar clump with the Geer Range,† as a plain of 12 miles in its narrowest part separates them. Before leaving this mountain, I should mention, as worthy of notice, the rock called the Bheroo Jup, whence until lately devotees threw themselves into the fearful abyss, as a religious act of suicide. The celebrated rock on which the edicts of Asoka, &c., are traced, is at the entrance of the valley which leads to the base of the mountain from the Joonaghur side.

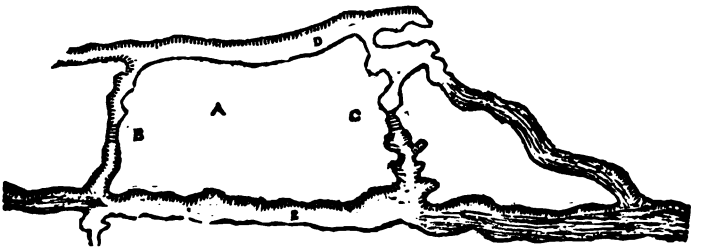
III. The Burda hills, near Poorbundur, are a circular cluster about 30 miles round: the highest point in the north, where are the ruins of Goomlee, is nearly 2000 feet above the level of the sea. Bamboos grow plentifully on their sides, and springs of excellent water are to be found on their summits, which give facilities for harbouring Bharwattyas, &c. In the neighbourhood of Drapha, of Dhank, and of Khagusree, are also hills which in like manner offer shelter and water. The hill of Gop, half-way between Bhanwur and Lalpoor, is celebrated for the ascetism in ancient times shown on its summits, and for certain caverns, whose depths it is pretended no one has fathomed—the apparent terminations being merely a delusion to conceal the mysteries of the interior! The Oshum Doongur is a solitary narrow tabular hill, half way between the Bhadur and Ooben rivers, about four hundred feet

* The first peak, 3d in height, is dedicated to Amba Devie or Bhuwanee. The 2nd, or highest and central peak, to Goruknath. The 3d, and second in height, to Dalatree Swamee and Shah Mudar. The celebrated Jain temples are on the first landing place at the base of the Amba Devie peak: the oldest date I could discover on them was S. 1215, A. D. 1159; but there are remains of more ancient temples said to have been destroyed by Allah Oo deen Khoonee, the bloody. The Geernar temples are inferior to those of Palitana in number and in architectural beauty.

† And still more so in speaking of the Geer as being a village, &c.

high, worthy of mention from the quantity of Obsidian covering its summit, exactly resembling Kendal coal, which tradition attributes to the coagulated blood shed in battle at the time of the Panduws.

IV. *The Geer.*—This is a remarkable formation, worthy of a more detailed notice than the limits of this report permit. It may be described as a succession of ridges and hills covered with forest trees and jungle. I have marched for twenty miles within it before finding room enough to pitch a bechova. The Geer, properly so called, ends near Dedan in the south-east, towards which it gradually narrows itself: the hills that again rise between Wudal and the Shetroonjee river, and sometimes called the lesser Geer, are not so termed by the natives of the district. From Koriar, near Mendurra in the north-west, to Dedan, the distance is upwards of fifty miles in a straight line. From Sursaee in the north, to Ghantwur south, it is near thirty miles. This extensive arena is divided by two main vallies running north and south, into which, from numerous hills and hillocks, pour a vast number of streamlets that create the Singoora and Rawel rivers, which enter the sea near Koreenor and Sunikra. The main lines of communication are through these vallies. The Geer has three other roads through it, but no cross communication save by difficult footpaths. Towards the north its hills are low, but they rise gradually towards the south, where they reach an elevation of about one thousand feet. The Nundee Vela Hill, between Toolsee Sham and Kunthala, forms a conspicuous landmark for vessels approaching the southern coast. Every hill has its peculiar name. The Chassa is the most noted as a retreat for Bharwuttyas, as being difficult of access, having good water on its summit, and containing caverns and places of concealment which could be defended by a few resolute men against numbers. * As a specimen of what nature has done to render the Geer a formidable retreat for the disaffected, I adjoin a sketch of the position of Vejulkot near Toolsee Sham.



A—Vejulkot. B—Walled Gateway. C—Walled Gateway.
D—A deep nullah, with precipitous banks.
E—The Rawul River, with precipitous banks.

* Ensign Robertson, of the 15th Regiment Native Infantry, was shot in an attempt to storm a position somewhat similar to this, in A. D. 1832.

The only approaches to this place are by the northern and southern extremities, but these are all but impracticable for guns, and it would cost many lives to attempt it in any other manner if defended. Major Jervis, in his statement before the Geographical Section of the British Association for the Advancement of Science in 1838, is mistaken in speaking of the neglected inhabitants of the Geernar range, the aborigines of the soil, whom he estimates at two-fifths of the Katteewar population. The Geernar is nearly a solitary clump, possessing no other inhabitants than the priests of its temples, and ascetics. The Geer range, which that officer must have had in view, can scarcely be said to have any population. During half the year, *i. e.*, from the commencement of the monsoon to December, it is dangerous to reside in, owing to the malaria produced by its extensive jungle, and the poisonous quality of its waters. The poor villagers, who are tempted to live on its outskirts by the favourable terms on which land is there given to them, present a melancholy spectacle in their yellow cadaverous looks. I have seen few without scars produced by cautery—the native substitute for blisters—all over the abdomen. The Seedee race is the only one which, as on the pestilential coast of Africa, seems exempt from the noxious climate of this district. A few of these, chiefly the descendants of runaway slaves, occupy hamlets on the borders of the Geer without appearing to suffer, and they also tend the cattle which thrive in the Geer at all seasons. After the unhealthy months are over, droves of cattle frequent the Geer, and temporary hamlets are erected, inhabited chiefly by Charons, and of these a few are sometimes tempted to remain throughout the year, but it cannot be said to have any fixed race of inhabitants. Even in the dry season few can drink of its waters for many days together without affections of the stomach and otherwise suffering. Water and forage are retained here during seasons of drought after the plains have become dried up, and in the worst seasons the cattle from many miles round here find enough to eke out a couple of months' subsistence when all elsewhere is barren and dry. The forest trees are chiefly of the smaller kind, but teak is abundant, and supplies the neighbourhood with wood for their buildings and furniture. The expense of land carriage, and its inferiority in growth to the Malabar teak, prevent a more extended consumption.

V. The hilly ground between Wudal and the Shetroonjee somewhat resembles the Geer, but its hills are not high, the range is much narrower, less wooded, and more facile of transit. It is known by the name of the Wullak Geer, also the Mordhar range; and the continuation eastward of the Shetroonjee by that of Lamdhur. It is sometimes termed the lesser Geer, but these general terms are little known in the localities themselves, where every peak or ridge has its own peculiar designation. For instance, proceeding from west to east, they are respectively named Panchtobra, Modal, Mawo, Chuttrasa, Bhekree, Brochasoor-seer, under which is a valley named Khoriar-na-seer-no-

Galo—remarkable for its retaining water throughout the severest drought—Shibetee, Kodalia, Gorakhuro, Kurra Kulee, Gurer—the Gurer valley, from its facilities for water, and of concealment and defence, is a celebrated haunt of Bharwuttyas—Dholia, Dhar-Gebur, Kumla, and Sawuro. The Shetroonjee river here terminates the range.

VI. East of the river rises the celebrated Palitana mountain, called also Shetroonjia Shiturkot, and a variety of other names. The Jain temples on the top of this hill possess considerable architectural beauty: its height is about 1,500 feet.* Near Shehor there is a small hill, a detached spur as it were of the Lamdhur range, and which terminates the hilly formation in the east until it is again met with in the Bhudlee range that runs into the high land beyond Jusdhun.

11. *Rivers.*—The province abounds in rivers—it is difficult to make a day's march in any direction without crossing several. None, however, except the Bhadur are navigable; and even this, the largest and longest in the country, presents in the dry season only deep pools, with a mere trickling streamlet to connect them. In the monsoon it is navigable by boats of from ten to fifteen khundees, as far as Wuntlee on the united Oojeet and Ooben branch, and to Jetpor on the main stream, and continuously at this season to Kotiana. The rivers therefore scarce deserve the name, but are rather like mountain torrents that pour forth a volume of water after heavy rain, and again speedily subside into insignificance—yet to see the width of the banks of many, and the huge body of water rolling past during the monsoon, a stranger would imagine them of much more importance than they really are. The majority, however, serve to irrigate the adjacent fields by wells dug at the foot of the banks. The Bhadur rises in the Mandwa hill behind Jusdhun, and disembogues at Nuvee Bunder; next to it in size is the Shetroonjee, which rises on the Susaee hill of the Geer range, and terminates at Sooltanpoor beyond Tullajee. Two streams—viz. the Kharee and the Kharudee, the former retaining water throughout the year—with dangerous quick sands, pass through a nitrous soil, and

* The enormous outlay on the buildings on this hill may be supposed when the transport of every single stone costs a coree [something less than the third of a rupee.] The floors of all the temples are in tessellated marble work of divers colours, and the thousands of idols they contain are all of marble. The temples recently erected by Moteechund Ameerchund are said to have cost about four lakhs of rupees, but they would scarcely be missed from the crowd of similar structures which crown the whole summit of the mountain. The oldest date to be found in the inscriptions on these temples is S. 1582, A. D. 1526-27, but it seems probable that the Jains had temples on the hill at an earlier period; the very name of the place, *Palee Sthana*, or the place of the Palee, a language chiefly devoted to them, or to Boodhistical writings, betokens a very ancient period. The oldest inscriptions profess to notify the seventh consecration; a subsequent one commemorates the assembly of different religious sects for the purpose of discussion, by Akbar in S. 1639, A. D. 1583-84, and the support given by him to the Jains.

enter the Shetroonjee near Krankuch ; the effect of this saline effusion is stated to be felt throughout the remainder of its course. The Muchoo is the third river in size : it rises in the high land between Choteela and Surdhar, and, passing Wankaneer and Morvee, disembogues at the mouth of the Runn near Mallia. The Oojeet, which rises near Goondalee, is fed by numerous streams from the Geer ; joins the Ooben near Wuntlee, and the Bhadur a mile above Nuvee. The Ooben, which rises near the source of the Oojeet at Bhensan, but is thrown off to the northward by the Geernar mountain, which it encircles until it joins the Oojeet as above ; and the Ajee or Rajkot River are also streams of some size, retaining a current of water throughout the year. Pools of water are to be found in most of the rivers at all seasons of the year, and it would fill a goodly vocabulary to name every stream.

12. *Runns.*— One of the striking geographical features of this peninsula are the tracts of country called Runns, by which it is partly surrounded. That of Cutch, called the Great Runn, completes with the Gulph its northern boundary. The Small Runn commences near the other in the N. E., continuing to the Gulph of Cambay, with which the eastern limits are completed ; and, in the N. W., a narrow Runn separates the district of Okhamundul from the rest of the peninsula, except by the connecting link of a narrow bank of sand at Mudhe. I do not know any English word exactly corresponding to Runn. It is neither exclusively a swamp nor a fen, nor a desert, nor a salt marsh, but a compound of all. The Great Runn has been described by Macmurdo, Burnes, Lyell, &c. : the Small Runn has not, as far as I am aware, yet been noticed ; and as this is a very interesting tract of country, possessing some marked distinctions from that of the larger Runn, I purpose availing myself of the first opportunity of visiting it that may occur to me, to transmit a report upon it. In some parts of it salt is collected by the bordering villagers ; in others, the bulbous roots of a plant called beer abound, which, in times of famine, are dug up for food. A plant called theg also grows here plentifully, which furnishes nutriment : its roots are bruised, and a substance resembling small seed extracted therefrom. During the monsoon, communication with Ahmedabad is interrupted by this Runn, which is crossed with some difficulty by horse and foot travellers. Carts have to go round in the Veerumgam direction, to avoid the mud and small nullas in it, which are then filled with water. The Okhamundul Runn has been described in my report on that province forwarded to Government with letter No. 213, dated 14th July, 1841.

13. I now proceed to notice, in their consecutive geographical order, the modern subdivisions of the peninsula ; and,

I. In the N. W. comes the small province of Okhamundul, itself rendered a peninsula by the Runn that separates it from the mainland. This district was conquered from the piratical tribes who pos-

sessed it in A. D. 1815, and ceded to the Gaekwar by the VII. Article of the Supplemental Treaty with that Sovereign, dated 6th November, 1817. Having elsewhere given a separate report on this district, I pass on to its adjoining province.

II.—*Hallar*—Comprises the northern part of the peninsula from Meeanee on the west coast to the junction of the Gulf with the Runn of Kutch. It is named after Jam Hala, an ancestor of that branch of the Jareja tribe which conquered it: it now belongs to different families of this tribe, whose name the practice of infanticide has brought rather prominently to notice. Its principal chiefs are those of Nuwanuggur, Gondul, Rajkot, Dhurol, and Kotra Sanganee. The western part of Hallar is termed Bararee, which is the level portion between the Hills, the Sea, the Okhamundul Runn, and the Gulph of Kutch. Nuwanuggur, the capital of the Jam, and the most populous city in Soorashtra, was founded by Jam Rawul in A. D. 1540. Hallar is the largest and most populous province of the peninsula.

III.—*Muchoo Kanta.*—Is a narrow slip of territory, on either bank of the Muchoo River, belonging to the Morvee and Mallia chiefs, who are more recently descended from the Kutch family than their brethren of Hallar. Mallia is of the Morvee Bhayad. The present Morvee chief is the 8th in descent from Rao Dhunjee, whose son, Ruvajee, obtained Morvee in A. D. 1677, but was murdered in A. D. 1698 by the son of a younger brother, since which period the younger branch has been seated on the Kutch Gadee, the elder retaining Muchoo Kanta and part of Wagur. *

IV.—*Jhalawar*—Or the country of the Jhalas, unites with Hallar to the southward of Muchoo Kanta, and fills up the rest of the Peninsula to its N. E. angle where the Kutch Runn bends to the north; eastward it reaches nearly to the head of the Cambay Gulph. This division includes the Petty State of Moolee, owned by Purmar Rajpoots,† and the Musselman one of Bujana, occupied by Juts,‡ whence that district is called Nhanoo or lesser Jutwar.§ Beyond the N. E. angle of the Peninsula, though politically included in this division, are the Mahomedan States of Dussara and Wunod, the Kolee one of Jhinjoowara, and part of Patree which is under a Koonbee family.

* The history of the Morvee family was given at some length in my report to Government dated 23d October 1839, No. 269; and Col. Walker's report on Muchoo Kanta gives many additional particulars. This Officer's reports on Hallar, Muchoo Kanta, Jhalawar, Gohelwar, Soruth, Burda, and Katteewar, are indeed so full as to render my allusions to them brief, confining myself to a connected view of the whole and to what has escaped previous notice.

† Probably the ancient Prumara,—one of the so called thirty-six original Rajpoot tribes.

‡ Probably of the ancient Jet race, though now converted to Mahomedanism.

§ The inhabitants and Mool Grassias are chiefly Juts, but the ruling family is of Baloch extraction.

These four are in the geographical division of Wudheear, adjoining that of Chowal. The Jhalas are supposed to have been located in the Peninsula since the eighth century.* The chief Gadees in Jhalawar are Drangadra, Limree, Wudwan, Wankaneer, Than, Saela, and Choora, all of the Drangadra family originally, and, though entirely independent of it, still considering their investiture on accession to the Gadee incomplete without a dress from the Head of their tribe. The districts bordering on the Jhalawar Runn are named Null Kanta, and Nhanoo or the lesser Bhal. The southern portion of Jhalawar is termed the Burwala Purguna from the town of that name, and is now under the Ahmedabad Collectorate; as are also other villages of Limree, Wudwan and Than, shown in the Statistical tables.

V.—*Gohelwar*, or the Province of the Gohels, fills up the remainder of the Eastern frontier. The Gohel Rajpoots were driven out of Marwar by the Rahtors, in the end of the 12th century, and acquired their footing in the Peninsula chiefly by intermarriage with the Choorasama family of Joonaghur. By the revolutions of fortune their first town, built and named Sejukpoor after Sejuk the chief, who conducted hither the tribe, has fallen into the possession of a Kattee family; whilst Gohelwar has nearly doubled its original size by acquisitions from the Kattee and other tribes. The western division of Gohelwar, between the Shetroonjee and Jholapooree rivers—the hills and the Sea, and this strip of land, still retains some of its former Surweya and Kolee† Proprietors. The Rajah of Bhaonuggur, who has dropped the title of Gohel for that of Rawul, is descended from the eldest son of Sejuk, and is the principal chief in Gohelwar. Next in consequence, though far behind him in wealth and possessions, are the States of Palitana, Lathee and Wulla: the two former are possessions bequeathed to Sejuk's two younger sons, and Wulla more recently derived from the Bhaonuggur family out of the 384 villages ‡ alleged to have been given with Lathee to Sarunjee the second son of the founder of the tribe: only eleven villages now remain under Lathee, and four of these are subject to the Ahmedabad jurisdiction. The establishment of the Gaekwar's power at Amrellee and Damnuggur, has swallowed up the greater portion of its territory, for which, and for the honor of alliance with Damojee Gaekwar, the Lathee chief's tribute was remitted to him, and the yearly nuzrana of a Horse is all that is now claimed by the Baroda Government. Bhaonuggur was

* The original name of this tribe was Mukwahana, by which title some tribes are said still to be known in Central India: they claim to have received their Grass from the Peeran Puttun (Anhulwara) Gadee.

† Two tribes of Kolees in the south of the Peninsula are termed Khussia and Khant: both appear to have intermarried above their original state, the former with an ancestor of the Thakor of Bhaonuggur, from whom Sadool Khussia, the recent noted Bharwuttya, who owned Monpoor and other villages in this quarter, was lineally descended.

‡ The traditions of ancient allotments of *Grass* are generally exaggerated, and must be received with caution.

founded by Bhao Singhjee, in A. D. 1743, but having fallen under the Ahmedabad Collectorate, in virtue of our conquests from the Peishwa, the situation of the Thakor is less independent than that of the other chiefs of the peninsula, who have their capitals removed from that jurisdiction; and as the family is keenly sensible of this difference, and has constantly essayed to have it removed without success, it seems probable that the seat of government will be before very long removed to within that portion of the Bhaonuggur territory which claims equal independence with the remainder of the peninsula.

VI. The small district of *Oond Surweya* is imbedded in Gohelwar, it being merely the strip of land on the banks of the Shetroonjee river northward of the Wullak hills. Oond implies low, the district being confined to the level country on either side the river: it contains only thirty-three villages, of which six have fallen under Bhaonuggur. Datha, with twenty villages, belongs to the same tribe, and is consequently attached politically to this division, though it is situated in Wullak. This small tract of land is quite unworthy the name of a province or prant, and is chiefly interesting from its having preserved the remnants of the Rajpoot tribe which ruled in the peninsula before the invasions of its present proprietors. No permanent settlement regarding the tribute of this small district has yet been made, but the amount formerly taken by the Gaekwar's managers has been realized, except where impoverished circumstances rendered remissions necessary.

VII. *Babriawar*, or the country of the Babrias.—This province adjoins Wullak, having the Jholapooree and Malun rivers for its boundaries east and west, and reaching from the sea to the Geer hills. The proprietors of land are Babrias (commonly, though erroneously, called Babria Kattees) and Aheers. The Babrias class themselves under 72 tribes, as per list given in appendix (Enclosure 3), but these are traced up to the three leading ones of Koteela, Wuroo, and Dhankra. The first draw their source from intermarriage with the daughter of a Seekor Brahmin; the second to connection with the Jetwa family of Poorbundur; the third claim descent from the Panduws. The Aheers trace their lineage to the ancient Solunkee Rapoots of the island of Diu,* and believe themselves to have fallen into possession of the territory of the Wala Rajpoots by the gradual extinction of that race. These tribes seem to have been formerly located higher up in the peninsula, as they claim Than for their country, and to have been gradually driven to the southward by the invasion of the Kattees some four or five centuries ago. The Nuwab of Joonaghur claims sovereignty over Babriawar, in virtue of the exactions which his occupation of the neighbouring district of Oond has enabled him to make for a long series of years, and of his having retained military posts in the country.

* I am now writing a separate report on Babriawar, in which their own histories will be given. The statistical table in the appendix is condensed from the materials collected for that report.

The Zumeendars are too divided and weak to maintain their independence, which has only been secured to them in its present modified form by the existence of the British power, which realizes regularly the tribute that the Moolukgeeree excursions of the Mahratta force formerly imposed: except with Dedan, which is the most powerful of these petty Zumeendaries, no permanent settlement for their tribute has been entered into. The port of Jaffrabad* is in the centre of Babriawar, and forms, with eleven neighbouring villages, an acquisition of the Zunjeera Seedee. I could not discover the era when the Seedee first obtained a footing here: according to the tradition of the place it was ceded to him by Moozuffur Shah of Ahmedabad, which, if the last of that name, would show the grant to have been made somewhere near the year A.D. 1570; but some doubt is thrown on this assertion by the fort having been built only in A.D. 1747,† at which time the place is said to have been in possession of Turks‡ and Kolees. The port of Jaffrabad is one of the best in the peninsula, and affords shelter for shipping throughout the monsoon. There is no portion of the peninsula that has been more misrepresented than Babriawar by every writer on it, from Colonel Walker down to Mr Elphinstone, who, copying these several authorities, says, "Nearly in the south is a hilly district called Babriawar, which is covered with woods," whereas there are few trees and still fewer hills in this district; the mistake has probably originated in supposing the Geer hills to be in Babriawar, which province they only skirt.

VIII.—*Soruth.*—This province adjoins Babriawar to the west, reaching along the sea coast to Madoopoor, and inland to the Bhadur River, where it meets Hallar, and with it encloses the seaboard district of Burda, and completes the circle that constitutes Katteewar a central province.

Soruth contains some minor geographical divisions, viz. — The Bhadur and Nolee Kantas. The Geer—the larger and lesser Geer. The larger and lesser Nugher. The two first refer to the districts on either side of the rivers so named. The Gur § is the lowland watered by the Bhadur, the Oojeet, and the Sawlee Rivers. During the monsoon this tract is commonly covered with water, and the communications between village and village are then made in small canoes. The population consists chiefly of Koonbee and Kolee cultivators. The larger Geer is the main body of the hilly and jungly district reaching to Dedan, described in my 10th paragraph. Though a large portion of

* The correct orthography is Moozuffurabad.

† By Seedee Sooban Khan.

‡ This is the first notice I have met with of any settlement by this nation: we read of a union between the Mamlukes of Egypt and Mahmood Begra against the Portuguese, and that the Turks who succeeded them, continued to send ships into these seas. If the allegation be true, a small colony may have chosen the spot as a watering place for their ships, perhaps temporarily resident only.

§ A term common to rice and marsh land.

this range is considered in Katteewar; the other is the smaller portion westward of the main body, reaching nearly to Puttun. The Nagher is the strip of land between the Geer and the sea, commencing from the Nolee Kanta near Mangrol, and terminating with Babriawar. Koriuar in the centre of Nagher, with a large district subordinate to it, was ceded to the Gaekwar by the Nuwab of Joonaghur in A. D. 1811. In addition to the old Rajpoot Grassias, spoken of in paragraph 5, Nagher contains several Mahomedan Syud proprietors. Nhanee, or the lesser Nagher, which adjoins Babriawar, is more commonly called the Oond district, from its chief town of that name. Besides Syud Grassias, this part of Nagher contains some few families of the mixed Gohel and Khant races, who claim to have held possession of Diu before the Portuguese conquest in A. D. 1535. This period of Rajpoot history, like every other depending only on Hindoo sources, is involved in obscurity. The Syuds hold their land in grant from the earliest periods of Mussulman invasion. The first Mahommedan encroachment in this peninsula after the Ghuznuvee storm, would appear to have been made by Gheeasoo Deen Ghori's Generals towards the close of the twelfth century; the latter occupied (Anhulwara) Puttun in A. D. 1195. Kootub ood-deen, after ravaging part of the peninsula, placed a garrison in Anhulwara Puttun; when this was withdrawn or expelled is unknown, but Jelaloo deen Khilje would appear to have established his power prior to Allahoo Deen's conquest in A. D. 1297, for there is an inscription on marble in the market place of the town of Puttun,* on the west coast, bearing date A. H. 697, 12th of Rubee ool Uwul (*A*. D. 1297), wherein one Shadyawur Khan notifies that he has been sent thither by the Protector of Mankind to remedy the misgovernment of a Meerza Inayut, &c. Allahoo Deen himself is commonly known in this Province by his epithet of Khoonee, or the Bloody, and he appears to have made havoc with the temples and images as well as with flesh and blood. Some beautiful ruins of temples on the Geernar are pointed out as his work, and in like manner his name bears the odium of his predecessor's Iconoclastic fury. The mass of ancient tombs, some of beautiful design, around Puttun, denote a numerous bygone Mussulman population. On one of these I read the date A. H. 707, A. D. 1307. The old Somnath temple, whose fame attracted the Ghuznuvee hero, is still standing in a ruined state, crowned with a Mahommedan cupola, itself in ruins, a relic of the conqueror's bigotry. Though traces of beautiful sculpture and imagery are still to be seen, there is nothing in the size of the temple to lead one to suppose it the effect of the wealth that is said to have been bestowed

* Commonly called Belawul or Verawul Puttun, but Belawul is merely the port town of Puttun, and distant from it a couple of miles. Deo and Somnath are also discriminative epithets prefixed to its name.

on it.* The chiefship of Mangrol,† which is tributary to the Nuwab of Joonaghur, would appear, by an inscription on the walls bearing date S. 1202, A. D. 1146, to have been then a fief of the Anhulwara Gadee, or at least owning it as a superior power. The first Mussulman immigration is here traced to a Bokhara family, who landed on the coast under the guidance of Syud Shah Sikundur, of Toormur, and dethroned the Rajah of the place, named Koour Pal‡ in A. H. 777§ A. D. 1376, and shortly after gave it over to the authority of Feeroz Shah;‖ the easy conquest of a place of this size and strength by a handful of adventurers, would denote the prior existence of a Mahommedan population. A mosque, which adorns Mangrol, and is the finest building of its kind in the peninsula, was shortly after erected under the auspices of Feeroz Shah, and bears the date of A. H. 785, A. D. 1383, on the tablet that records the event; another inscription on the wall notices the re-conquest of the place from the Mahrattas in A.H. 1162, A.D. 1749, after its occupation by them for twelve years, by the ancestors of the present Sheik of the place. The Joonaghur power over Mangrol was acquired during the vigorous administration of the Nagur Dewan Umurjee, in the year S. 1822, A. D. 1766-67.¶ The Nuwab of Joonaghur is the chief power in Soruth, and indeed in the peninsula over which his armies formerly levied a tax, called Zortutubee,** which is now continued to him under guarantee of the British Government, who receive one-fourth for the expenses of collection, &c. The only other independent chiefs in Soruth are of the Nuwab's Bhayad, viz. those of Bantwa, and there is a petty talooka of two villages, held by Mahommedans of the Sheta tribe, obtained by them during the period of the Ahmedabad Soobahs in this province.

IX. *Burda* has been alluded to when speaking of the Jetwa Rajpoots in my 5th paragraph. It is the small remnant left to this ancient family of all its former possessions. This narrow strip from Madoo-

* One of the most remarkable relics to be seen at Puttun is a double statue of Boodh and the Lingum joined to the back, denoting, as it were, the union at one time of the two hostile faiths.

† Correctly Mungulpoor, subsequently corrupted to Manglor, the Monoglossum of Ptolemy, and hence the modern Mangrol.

‡ Or Koonwar, or Koomar Pal, a common Rajpoot name.

§ The exact date is A. H. 777-17 of Shuwal. I am indebted to the descendants of the Layud for these particulars, the same being recorded in the annals of their house. The head of the family, or, as it is termed, occupant of the Gadee, enjoys great reputation for sanctity; and the shrine of his ancestor is believed to cure the sick, and perform other miracles, to this day.

‖ The Syud, having ceased to trouble himself with sublunary matters, devoted himself after the conquest of the place, to his creed, and died in the odour of sanctity at the age of seventy-five.

¶ In this year the Nuwab's army took Mangrol by assault: the arrangement by which his present rights over the Purgunnah were secured was made in S. 1827, A. D. 1771-72.

** Literally—sought by force.

poor to Nurvee, comprises only a few villages on the sea coast, and, after passing the Bhadur, does not reach inland at the widest point twenty miles from the sea. Nearly half of the Burda hills belong to the Jam of Nuggur, and from Udwana the line of territory abruptly turns till it again unites with the sea at Meeanee Bunder. The port of Poorbunder, though somewhat obstructed by the bar of sand at its mouth, is the best on the west coast, and carries on trade with Zanzibar, Mocha, and other ports of Arabia, Sonmeanee, Scinde, and the Malabar coast; about sixty vessels, ranging from twenty to two and three hundred khundees, belonging to the port, many of which are laid up.

X. *Katteewar.**—This large central province is named after the Kattee proprietors of the soil, of whom the three chief tribes are the Wala, the Khachur, and the Khooman; these tribes, termed Shakhaeet or noble, are subdivided into twenty of the first, seven of the second, and ten of the third—in all thirty-seven: and there are ninety-three tribes of Ehwurutias, or *ignoble*, as per list given in Appendix (Enclosure No. 4.) Katteewar is divided into five districts, viz.: Punchal, in the north-east; Khooman, in the south; and the three intermediate ones of Wussawar, Kharapat, and Alug Dhananee. The first is celebrated for its breed of horses, and is chiefly occupied by the Khachur tribe. The western division, obtained from Soruth, belongs exclusively to the Walas. This portion is sometimes classed in Soruth, sometimes in Katteewar—belonging to neither of the five original divisions of this Prant. Khooman takes its name from the tribe which people it, though their power and influence have been greatly broken by their long struggle with the Bhaonuggur chief who now occupies Sawur Koondla, the chief town in the district. Amrellee, in the heart of Katteewar, is the capital of His Highness the Gaekwar's possessions in the Peninsula, which owe their main bulk to acquisitions from the smaller Kattee Grassias, partly by their desire to shelter themselves under a powerful State, and partly by the customary Mahratta process of deglutition. The Wala family of Jetpor is now the most powerful of the Kattees. The Khachur one of Jusdhun, the next. This last has possessed in succession two vigorous chiefs, who by force, wealth and dexterity combined, have broken down the barrier of the Kattee law of "Gavel Kind," and maintained themselves singly as chief of the Talooka. This law of equal partition is gradually reducing the importance of all the Kattee proprietors, and except the two above named no other is of any great weight in the country; although the Wala Talookas of Buggusra, Beelka and Kotra, the Khachur ones of Paliad, Cholceta, Anundpoor and Kureeana, and the Kwur ones of Dhandulpoor and Soodamra, are of respectable size, but they are sub-divided into numerous shares. The Bhudlee Talooka, by the

* Vide note to 35th para.

recent death of Bhankhachur without issue, has become the property of distant relations, shareholders of several other States. The Khoomans, though they retain some of the grass of their ancestors, no longer possess any independent existence as separate States. The exact period of the Kattees settling themselves in this Peninsula is unknown, but it is believed to be towards the close of the fourteenth century: they came immediately from the North-Eastern quarter of Kutch, and appear to have been a nomade tribe, wandering with their herds wherever they could find pasture, and plundering by profession. Their first establishment in fixed villages is said to have taken place between two and three centuries ago, but even so late as the commencement of this century we find Colonel Walker speaking of them as addicted to all their former habits—the Jetpor and Jusdhun families excepted, whose example he says "may afford a hope that the rest of the Kattees may also be reclaimed." Those who set this good example were formerly styled "reformed Kattees"—a term already become obsolete, but the establishment of the British supremacy has alone put a stop to their predatory excursions, and many Kattees are yet living who have stuck their spears into the gates of Ahmedabad during such occasions. The lightness of the tribute paid by these tribes in proportion to their revenues, as compared with other communities, is owing to the greater developement of their resources, which habits of order have created, since these proportions were fixed by the Mahratta Moolukgeree commanders, and confirmed by Col. Walker in A. D. 1808. The Kattees owe their possessions chiefly to the general anarchy produced by the decline of the Mahomedan power—the Jhala Jareja, and other tribes, purchasing immunity from their plunder by the cession of villages: Jetpoor, Beelka, Mendurra, &c., were thus given up by the Nuwab of Joonaghur, less than a century ago, with reserved rights therein. The Kattees are evidently a northern race: their stature, features,—above all their blue and grey colored eyes, by no means unfrequent—give much of probability to the idea that they are of Scythean descent, with which their habits in some degree correspond. The Sun is their chief deity; its symbol is drawn on every deed at the head of the list of living witnesses, with the words *Sree Sooruj Nee Shakh.** Their mixture with other tribes has inocculated them with respect for the Braminical deities, but the sun is paramount. There is on the Mandwa hill, near Than, a temple dedicated to the sun, generally believed to have been erected by the Kattees on their arrival in the country, for it was in that neighbourhood that they first established themselves; but if so, the Kattees no longer worship therein, and the rudeness of their primeval state, together with their ignorance of its history, throw some doubt on its origin: the Sanscrit inscription on the pedestal of the deity is nearly illegible, and would betoken an earlier period than that fixed for the

* The witness of the holy Sun.

immigration of the Kattees.* It is somewhat singular that the Purmar Rajpoots of Moolee should have borrowed this deity, whom they have named Manduwra, from the hill on which this temple stands. He is universally believed to represent the sun, which is besides visible from the halo round his head; but whoever may have been the rearers of this edifice, they have given him a wife and a companion to share his honours.

14. The number of separate jurisdictions, as shewn in the statistical tables accompanying, was formerly 292, of which eighty have been absorbed, chiefly by the Gaekwar's encroachments in Katteewar, but also by acquisition of territory on the part of the Jam of Nuwa Nuggur, the Thakor of Bhaonuggur, and the chief of Jusdhun: the number now paying tribute to the British and Baroda Governments is 212. Some of these pay only to one, but many also to both; for instance, Jhalawar is tributary exclusively to the British—Gohelwar, with the exception of Bhaonuggur, Oond Surweya, and Babriawar, to the Gaekwar—Okhamundul is held tribute free, and the remaining provinces pay to both powers. The British share of the tribute is increased by the cession by the Gaekwar in part of subsidy of that of Bhaonuggur. The proportions now realizable from the peninsula are as follow:—

British...	Tribute	Rs. 6,06,709	13	4
	Do. as Subsidy	,, 81,950	0	0
	Share of customs ceded by Poorbunder	,, 26,001	0	0
	Total	Rs. 7,14,660	13	4
Gaekwar		,, 3,76,121	4	7
Nuwab of Joonaghur		,, 92,861	12	0
	Grand Total	Rs. 11,83,643	13	11

The above sum may be deemed one-fifth of the annual rental of the peninsula, which is estimated at about sixty lakhs of rupees. The tribute presses on some states severely—on others the contrary; but the basis of the permanent settlement was to take things as they were, and prevent their getting worse. The Mahrattas followed no other calculation than that based on the respective powers of attack and resistance, and the majority of the chiefs doubtless owe their present existence to the benevolent policy that dictated nearly costless realization of the tribute on one hand, and on the other protection to the states who paid. Twelve states, it will be perceived by the tables, pay no tribute, viz.—Jaffrabad under Zunjeera, and petty talookas formed by Mahratta adventurers during the period of their sovereign's power, or villages that have never been classed under, or paid tribute or fealty to,

* Inscriptions have been removed from this temple, and from that of Somnath, by English gentlemen. It is said that the spots whence they were extracted are shown. It is deeply to be regretted that one of the chief means of tracing the history of a country should be thus lost owing to misplaced zeal.

any state, and who, in virtue of immemorial usage, are little chiefships in themselves. There are now, therefore, 224 separate jurisdictions; but this number faintly pourtrays the real amount of existing sovereignties. The minor Rajpoot and the Kattee states maintain the law of equal male inheritance* and equal rights. Thus Drapha, a Rajpoot talooka, possesses 163 sovereigns; and Cheetul, a Kattee town under Jetpoor, thirty-two—without including the rising generation. In most cases the patrimony is divided and subdivided into separate portions, reserving more or less of it in common. In some, the family estate is held mujmoo, or in joint tenure; but the continued bickerings that ensue generally end in one proprietor after another claiming the division or *wechan* of the common property. To all these subdivisions must be added the numerous farms or portions of land, belonging to one or to many proprietors, mortgaged to clear off embarassments: the number of separate jurisdictions may therefore be calculated at several thousands instead of at their nominal number.

15. The establishment of the various tribes in the peninsula was founded on the sword, but much of their territory was subsequently gained by the weaker landholders writing over their grass to whomsoever they thought best able to protect them, reserving a fixed portion for themselves: these, where they have retained only a minor share of the village lands and taxes, without one in its Government, are termed Mool grassias; and from the natural result of power and cupidity united, have in most cases been deprived by degrees of much or all of what they had reserved for themselves. With these exceptions, the tenure on which all the chiefs hold their possessions is that of absolute sovereignty over, and property in, the soil. Whatever may be thought of this question as refers to the ancient Hindoo principle of the sovereign's claim, here he is held the lord of the soil. He bequeaths portions to his sons for their maintenance, or to religious characters in charity or ostentation. Such bequests convey the donor's rights to the recipient, and so far the head of the tribe loses his sovereignty over the soil, though, by the arrangement for military service and for payment of a fixed tribute where he himself is tributary, a modified form of sovereignty over the person is continued. In this respect the tenure is alike in the oldest and most recent of the ruling tribes. In illustration I will sketch the origin and formation of a village community: the first process is an examination of the ground by the chief in person or his deputed agents, and on the site being fixed he gives out publicly his intentions; hereupon men who fancy they can better their condition by change, and who can command from two to a hundred ploughs, proceed

* In most of the former, and in some of the latter, a share called Mhotup, or eldership, is given to the eldest son—generally one additional share to that possessed by the other sons: thus, if there be five sons, six shares are made, and the eldest gets two—but the practice varies.

to make their terms, which vary according to the character of the chief, the quality of the soil, &c., but principally only as to the amount of profit for the first two or three years, after which the payment is made under different heads, more or less varying; the general result differs but little, varying from a third to half of the produce in kind, with a proportionate increase in fixed money tax. Generally the cultivators receive for the first year of occupancy the whole of the produce, the second year a small proportion is assigned to the chief, and the third year, unless the ground had required great outlay for clearing, he receives his full rights, as fixed by the deed of agreement passed to the patel or patels who have brought the ryots over to him.

16. Each plough pays a certain sum called Santhee Weera, varying from eight to fifty rupees. The cultivators prefer a low money tax, and a larger payment in kind, because the losses incurred by drought are more equally divided. The payment in kind is called *Wujje*, also *Bhej*. A santhe of land varies all over the country: in some it is as much as can be ploughed by two bullocks, in others by three, and in some by four. In some districts this last is called a double santhee; in others six bullocks per plough are necessary to form a double santhee; and in some, again, even three bullocks constitute a double santhee. These variations occasion similar changes in the revenue management: generally a santhee of land is deemed to contain three prajas, each praja thirty weegas or beegas, and each weega a square of 95 cubits or forty-five yards.* For this extent of land are required for seed in land watered only by the monsoon,

2¼	Maunds†	of Bajree.
1¾	Do.	Til.
20	Do.	Wheat.
22½	Do.	Gram.
9	Do.	Kupassia or Cotton seeds.

And the produce, say of bajree, which is the staple of the country, would be in good seasons ten kulsees, or 300 muns of bajree, which, at the average rate at such seasons of twelve annas per mun, would give a return of 225 rupees per santhee. Now of this I take the Morvee Talooka as an example: 40 rupees go to the chief as santhee weera: the produce is divided into five shares, of which the chief receives one—of the remaining four, one is expended in reaping and harvesting, the extra labourers being paid in kind, and this includes Brahmins, Charons, and the various mendicants who flock together at such seasons; and calculating a third share as necessary to meet the santhee weera. It will be seen that two-fifths of the produce are realised by the cultivators, and about the same by the chief—this as simple rent of his

* Nominally—but in reality reduced to forty-two yards by the mode of applying the line, and in some districts to less.

† Throughout calculated in the Surat maund of forty seers, each seer of forty rupees weight. The weights and measures differ all over Katteewar.

property; that in return for capital, stock, and labour. The ryot is, however, by no means clear of further demands; extra taxes—under the names of uwul puedash,* khola patur,† dhoobuk ;‡ also dhombs§ weera, oochka, or tax on grain pits opened in seasons of scarcity; choola weera, tax on hearths; oomur weera, that on the threshold of each house; poochee weera, on the tail of each bullock—are by one or other name imposed on him whenever the Durbar necessities urge its running the risk of killing the bird to get at the golden egg.

17. To illustrate the divers modes of raising the revenues of the country, I will add one more example, showing that in force in the Amrellee Muhal of His Highness the Gaekwar. Here the santhee is calculated at fifty weegas only, and to each is allotted half a kos.‖ Each santhee is calculated to produce in good seasons 450 muns of bajree, or rupees 337½. From this the Durbar santhee weera is as follows:—

	Rs.	
Santhee Weera, or fixed tax, per plough,	23	
Chandla Puttee, or Wudhawa,¶	1	
Shagira Pesha,**	1	
Jhampa Khuruch,††	2	
Total per Santhee,	27	
The Durbar Wujje is a fourth of the produce, or	84	6
Total,	111	6
The Cultivator receiving three-fourths and paying the Weera, leaves him,	226	2
Total value of produce,	337	8
The Cultivator's annual expenses, exclusive of stock and wear and tear, are estimated per Santhee, at	100	
Balance,	126	2

Thus, in Amrellee the Durbar receive 111 rupees, and the ryot 126 rupees, per santhee, which may be considered favourable to the latter; he is however subject to oppression in the estimate of the fruit of his labours. Throughout this Purgunna this is made by what is called dhal,‡‡ in opposition to makhul,§§ and the officer of Government will

* First produce.
† Spreading out the lap, *i. e.* begging for money in this way.
‡ Dhoobuk means literally a jump.
§ A slap on the face.
‖ Well and pair of bullocks (15 weegas) are estimated for one kos. The reason of this diminution in the extent of the santhee, is the greater productiveness of the soil in this part of the peninsula.
¶ This is a mere name for increasing the original tax.
** This is also a mere name for increasing the original tax.
†† Village expenses.
‡‡ Estimated by view.
§§ That by measure after the produce has been brought to the village grain-yard or khulla.

generally force him to consent to an over estimate, or expose him to the loss of delay before he will permit him to reap.

18. In most districts the produce is brought to the public grain-yard of the village, where it is trodden out, winnowed, and measured. The khulla is a spot outside the walls, selected for the purpose, &c., and prepared for each harvest by cow-dunging and beating down to the requisite smoothness and hardness. It is fenced round by thorns, and protected during the season by a guard. Here all the produce of the village land is carted, and a functionary from the durbar attends to measure out his master's rights, not forgetting his own and sundry other officials, under the name of kamdar no mapo (the karbarree's measure), the koour's (prince's), the baee's (wives'), the khuwass's (household confidential slaves'), the havildar's, and so forth. These exactions at the khulla, and the loss the cultivator is apt to suffer by detention of the grain on the ground, from thefts, rats, &c., make him often compound for the whole at a favourable rate to the Durbar during the period of what is called the kacha dhal, or rough estimate, which is almost always made before the corn is ready for reaping, by some one officer or other of the durbar.

19. All these customs, accidents, and risks, the patel or patels calculate on ere they take up their residence in a new quarter; but once having agreed to the terms offered, they receive a turban in token of engagement, from which they cannot draw back without exposing themselves to a fine entered in the agreement: they then proceed to form the village in the allotted quarter. The proportion of other classes per hundred ploughs, is as follows:—Two families of sootars (carpenters), one to two of lohars (blacksmiths), two of durjees (tailors), two of khoombhars (potters), one to two of mochees (shoemakers), two of hujjams (barbers), four of bhurwars (sheep and goatherds), eight to ten of dhers—these act as curriers, and perform the rough work of the village,—three or four of banians (shopkeepers), eight to ten of pusaitas:* all these classes hang together, and their dealings become so much mixed up with one another, that when a patel, or leading cultivator, of influence quits one place for another, a proportion of these will always accompany him: there will generally be two or three leading men among them, who act as leaders of the rest—the Banian, who advances grain for seed, and money for bullocks; the man who, by money or by influence, can command the greatest number of ploughs; and the most skilful of the artisans. All these classes must settle the terms of their residence with the durbar, but this is generally done by the leading person or persons named, and they have to pay certain taxes

* The pusaita is the military police of the village, which it is his business to protect, and also to carry the communications to and fro between it and the durbar; for this he receives a small portion of land to cultivate, free of all charge or incumbrance.

according to the nature of their trade, one of the most striking of which is called *Wet*, or service performed for the chiefs without payment. A community is thus got together, and as it increases in numbers it draws artisans and mechanics of a higher order, to suit the wants of a more advanced state of social existence. The cultivators, it will have been seen, have no property in the soil, which is exclusively that of the chief. The Police also depends on him; he fixes the number of Pusaitas for whom he will grant lands, and maintains a Sipahee or a Havildar, who enforces the durbar rights: in a larger community a Mehta (writer) or a Kotwal would be added, and extra Sipahees, according to circumstances. If the village be in a frontier position and likely to be involved in disputes about boundaries, or to suffer from theft, the number of Pusaitas is augmented, without which protection indeed the cultivators would not remain. The Pusaitas are generally Mahomedans or Rajpoots of low caste,* and the land given to them often passes from father to son, though it is optional with the chief to remove them when he sees fit. The dependence on each other of the laboring classes, and the facility of migration, oppose a powerful barrier to undue exaction. The chief is a despot, it is true, unchecked by any Magna Charta or code, but if he attempts too grossly to interfere with their rights, they can, and often do, desert him; on the other hand, when men have resided for years, perhaps for generations, with their families in one spot, they will put up with much hardship ere they are driven to quit the homes of their childhood.

20. Such seems to have been the earliest condition of Society and tenure of land in this Peninsula, but in like manner as the original proprietors have dwindled away into Mool Grassias, and many of these have been reduced by degrees to the condition of the mere Pusaita Rajpoot, by poverty, by force, or by fraud; so the present customs tend to the same result, even under the peaceable sway of the British rule. The Bhayad in all cases have to be provided for, and the partition of land by each successive generation, reduces the smaller shareholders to the necessity of changing their customs or of providing for the present at the expense of the future—they pledge their estates to some wealthy chief or individual, and however unwilling they are to part with land *Aghat* (in perpetuity,) yet the result is the same, as they cannot redeem it, and thus by degrees property is again changing hands, and the proprietors going through the same course as the original owners of the soil, from whom their ancestors conquered or procured it. This transition is slow—the chain of events is long, but each generation adds a link to it. The notion of Sovereignty being vested in the right over the soil, is so strongly implanted, that the Bhayad,

* Low caste is perhaps an improper term, for they are often of respectable cast *per se*; but from having lost their land by the process of time, have become forced to labour. Low condition in life would be their correct description.

though paying tribute to the heads of their tribes, would resent as an insult any interference with the government of their villages or village. Where they are strong, therefore, the chief leaves them pretty much to themselves; where weak, his mode of securing his purposes is by imposing Mohsuls* to be fed at their expense until they consent to do of themselves what is required: and this custom, in conformity with long established usage, has been copied by the British Government to enforce compliance with its requisitions.

21. Of Civil or Criminal law, the people have no idea, nor do they seem sensible of the want—but such is ever the case in barbarous communities: each caste manages its affairs by Punchayets, where the leading men resemble some of our own select vestries, in meeting to talk and to eat at their neighbours' expense. The result is generally a fine on the offending party, also to be laid out in eating, besides any mode of adjustment that may be decided on. If a complaint of crime be lodged, one or more sipahees are quartered on the culprit until he pays what the chief considers sufficient to atone for his offence, or he is thrown into confinement to undergo the same process and be released on furnishing security. Mulcting is almost the sole penalty: capital punishment is rarely inflicted save in two or three of the largest States. —On inquiring into this subject, I ascertained that in two States of some consequence the only punishment by death that could be remembered occurred during the severe famine of 1812-13, when some men were put to death for the crime of having in their hunger killed and eaten cows! If a man have a debt to recover, he consents to give up a certain share of it to the chief, who thereupon proceeds to coerce the debtor,—but this process is often one of rival bidding for the chief's favor. Powerful guarantees will carry the thing through without appealing to the chief, but this is merely a supplying of his place by another; as a general rule, severity in the exercise of justice cannot be complained of. The people are left pretty much to themselves in the adjustment of their disputes; if, however, the chief's passions be excited, he will not scruple to torture to obtain the information he seeks. One of the peculiar features in the criminal jurisprudence of the country, if such a term may be used, is a custom which prevails in many of the States, in keeping spies on the alert to report cases of breaches of chastity,† which are made to yield a rich crop to the Durbar Treasury.

22. In point of education, the Peninsula must be classed very low indeed: few of the chiefs can read or write, and the persons who manage their affairs know little or nothing beyond their immediate sphere. Books are rare things, and unappreciated. In every town some small provision is made for schooling, but the funds set apart for this pur-

* From an Arabic root, and implying persons sent.
† The term used to denote the offence is chamchoree.

pose are totally inadequate, and the little use they might be turned to is vitiated by the custom of the son taking the provision his father received before him as "Grass," without any check as to his fitness for the office. Government pay two Pundits at Rajkote, and from 40 to 50 Pupils attend, but their parents withdraw them before they are advanced beyond the simple rudiments of Arithmetic, conceiving this to be all that is necessary; and I regret to say that the chiefs and other leading men have shown the most entire apathy on the subject of education. Some very intelligent and respectable Presbyterian Clergymen, from the north of Ireland, have recently established themselves as Missionaries at Rajkote, and devote their time to the instruction of youth, in English as well as the local dialect, and it may be hoped much benefit may eventually accrue from their labours.

23. The Brahminical Priesthood, as a body, can scarcely be said to have any weight in the country; there are no colleges for their education. The father gives the son such smattering of spiritual matters as may suffice to gain his bread; some pretend to cast horoscopes, and are consulted on births for the purpose; a few are sufficiently versed in the Hindoo astronomical tables to be able to calculate eclipses, and some three or four of these are well acquainted with Sanscrit,—but I doubt whether the whole province could produce one person coming under the denomination of a learned Pundit. The late Runchorjee, of Joonagurh, a Nagur Brahmin, to whose family, as Dewans of the Nuwab, the Joonaghur dynasty owes much of its present power, was the nearest approach to an educated native gentleman the country contained. His tastes and habits of thought were above his age; but he departed without casting his mantle on a successor. The Nagur community is very powerful in the Peninsula: they are by profession a corps diplomatique, and devoted to the arts of Government. Their principal residence is Joonaghur, but there are many families at Nuwanuggur, Bhaonuggur, and other large towns.* One family received a grant of land during the time of the Soobahs, and are the present chiefs of the Wussawur Talooka; but these have given up the industrious habits of their race, and taken to opium and indolence, in imitation of the other lords of the soil. The Nagurs are a shrewd race, and work their way into almost every durbar by their ability and tact—most of the native servants of Government are of this class. The number in the Peninsula is estimated at 1263 families, of which 920 call themselves simply Nagurs, in contradistinction to the remaining 343 who are termed Brahmins. The caste is, however, the same; but the habits of the more numerous body are purely secular, whilst the others live by alms and the practice of their religion. The above es-

* A table is given in the Appendix (Enclosure 5), shewing No., and places of residence.

timate is exclusive of numerous Nagur families from Ahmedabad and other parts of Goozerat temporarily residing within the province.

24. The Jains or Srawuks, whose derivation from the Boodhists is so apparent yet difficult to trace, are very numerous; scarcely a village of any size that has not two or three or more families. The Banians are almost wholly of this class, though there are a few Vishnuvites. I have spoken of their beautiful temples on the Palitana and Geernar mountains: at stated periods, bands of pilgrims, called Sungs, thousands in number, visit these places to worship, from Marwar and other parts of India. These Banians form the bankers of the province, and have embued the Rajpoot, and even the Mussulman Zumeendars, with some of their tenderness for animal life. In many parts of Katteewar they openly protect them, in the plunder, or, as they term it, rescue of cows, sheep, poultry, &c., from persons whose object they suspect to be slaughter: in this they are aided by the influence of the Nagur Brahmins. It would require a report of itself to do justice to the habits of this peculiar race, and to the position they occupy in the peninsula.

25. The remaining portion of the population is made up of Lohanas, Aheers without "grass," Rebarees, Koonbees, Mers, mixed Rajpoot races of low condition, Coolees, Mehmons, and numerous Mahomedan tribes from Sindh, Mukran, Beloochistan, and Arabia, which last classes constitute for the greater part the Seebundee of the province. The Meeanas from Kutch, who have obtained land at Mallia, are well known as a formidable race of plunderers: a powerful band of these outlaws, who disturbed the peace of the country by their outrages, were tried by the Political Agent's Court in 1839; since which they have refrained from any great excesses, and none of them have gone out into Bharwuttya. The Wadhels and Waghers of Okhamundel—the latter especially—very much resemble the Meeanas in their turbulent and plundering propensities, although they have not, like the last, exchanged the Hindoo faith for that of the Prophet. The vigour of the Gaekwar's administration at Okha has happily succeeded in keeping them within bounds by land, and by the sea the British flag prevents piracy.* The people now most likely to disturb the peace of the country are the Mukranees: all these men are soldiers by profession, ready to commit every crime under heaven for any body who will pay them. Attempts have been made to check the increase of this body, but without success. With such a multitude of bunders, and apathy on the part of the chiefs they belong to, the Political Agent has no means of tracing the migration of these bodies; and the rules to check their increase are inoperative. The Sindees, called Bawurs, have many

* Petty piracy was carried on a few years back under connivance of the Gaekwar manager, who was surrendered by His Highness, and convicted of the offence before the Political Agent's Court in 1840.

of them obtained land, which serves as some check against the proceedings of their countrymen. Some of these are, however, always to be found whenever a Bharwuttya of consequence holds out his banner. The Arabs are less prone to take service with Bharwuttyas, and are considered the most respectable of the military class, both as to fidelity and character. The coolies all along the eastern border are a very troublesome race, prone to plunder, and assemble themselves in gangs for any desperate enterprise, for which a double jurisdiction affords them facilities. Generally speaking, the Police of their respective districts is tolerably well maintained by the chiefs, and the system of mutual responsibility which enables one state to claim from another losses traced to, or incurred therein, seems well suited to the present state of society. No credit is due to the chiefs on this account, as they never give compensation without being forced to it by the interference of the Political Agent, and but too many of them are apt to retain secret shares of the plunder.

26. Rajkote seems to have been selected for the residence of the British force, and of the Political Agent's establishment, from its central situation from the Ajee River, which passes the town, retaining water in all seasons; and from the abundance of forage in its vicinity. An annual rent of Rs. 3000 is paid to the chief for the ground thus occupied. The head quarters of the Contingent of Irregular Horse, furnished by His Highness the Gaekwar, are stationed 60 miles due south of Rajkote, near the petty village of Manikwara, where the vicinity of the Geer hills is of advantage in the way of forage and wood, whilst the constant resort thither of Bharwuttyas renders the neighbourhood of Cavalry expedient. This contingent furnishes *thanas* of small bodies of horse, along the eastern frontier, for the protection of that line of trade with Central India. A detachment of horse and foot* help to keep the turbulent Meeanas in order at Mallia.† There is also an outpost of a hundred regular Infantry at Poorbunder, furnished to the Rana by treaty, and for which a share (Rs. 26,001 per annum) of the customs of that port were ceded to the Hon'ble Company in 1809. With the exceptions above given, the Police of the Peninsula is maintained by its several states: the Seebundee kept up by them for the purpose, may be estimated at 4300 horse, and about 12,000 foot, as per accompanying list (Enclosure 6.)

27. Soorashtra has been known as holy land to the Hindoos from the oldest period to which their history can be traced. The Truwenee, or junction of three waters‡ near the Puttun, where Krishna died, and

* A company of a hundred Arabs is under the Political Agent, who are paid from the Joonaghur Chouth.

† The contingent are of great service in the mohsul duty of the country,—a duty totally unsuited to disciplined troops.

‡ Viz., the Sea, and the Hurn and Suruswuttee rivers. The ashes of Krishna are supposed to be here entombed.

Dwarka, where temples are raised in his honor, form, to this day, the resort of thousands of pilgrims from all parts of India. Dwarka is deemed one of the four great Teeruts of India—and the peninsula abounds with spots that their Poorans have rendered sacred. These circumstances have thrown a religious colouring over the population, which exhibits itself in the charitable provision set apart in every town and village for pilgrims and travellers, in the number of Gosaens and ascetics constantly traversing the country. There are upwards of a score of persons called Gosaeenjee Muharaj, who visit the Peninsula periodically in great state, like so many popes, to receive adoration and money from their flocks; besides the four *Thanuks* or stations at Joonaghur, Amrellee, Nuwanuggur, and Poorbundur, where their mightinesses reside: these are exclusively of the Vishnoo sect. The Jains have their hierarchy also of Pooj and Sree Pooj—bishop and archbishop. There are institutions termed Munts, resembling monasteries and the religious orders of the Roman Church. The following places contain the most remarkable—Goruk Mudee, Turnethur, Seeta, Gopnath, and Beemnath. These have been endowed with land by the piety or ostentation of succeeding chiefs, and their rights are respected by the community. The abbot is termed *Bawa* or Father, also Gooroo, or spiritual guide, a disciple or follower. *Chela*, the most remarkable, is perhaps the first on the list, which I hope I shall not be trespassing too much on the time of the Hon'ble Board by describing, as throwing light on the manners and institutions of the country. The Bawa Peearnath of Goruk Mudee, a venerable old man of 62, enjoys several villages in the neighbourhood of the sacred Suruswuttee, which first feeds the holy reservoir of Prachee,* and after washing the walls of the Bawa's palace, empties itself into the equally sacred Truwenee,† about seven miles from his residence. Goruknath, the Gooroo of Rookmeebaee, the wife of Krishna, is the Deity of this Munt: his shrine lies deep under ground in the village of Goruk Mudee, to which he has given his name. The Bawa has here his Gadee, and is surrounded by about forty brethren, who are all distinguished by the peculiar custom of slitting the central cartilage of both ears, whence khanphuttee‡ (ear split) has become the designation of their tribe. This is the sect that, under the name of Nath, has excited such notice at Joodpoor by their influence over Man Sing: Goruk Mudee is said to be the Kibla of the brotherhood, and Bawa Peearnath the head of all. The late Joonaghur Nuwab gave him the village of Bosun in return for an elephant which the Bawa brought with him from Joodpoor seven or eight years ago, the gift of its sovereign on this visit to him of his spiritual father. This establishment, like the monasteries of the west, holds everything in common,

* Also called Prachee Puttun and Prachee Koond. The last word signifies reservoir of water.

† See note at the commencement of this para.

‡ Pronounced kan futty.

and its members are under vows of celibacy,—the Bawa is alone exempted from this vow, in order to keep up the succession; but failing issue, he adopts (in common with the other Munts of the country who are not thus released from their vows) a Chela or spiritual son from among his flock. The manners and appearance of the Bawa Peear Nath are prepossessing, whilst those of his Chela are the reverse. The ceremony of initiation is performed in youth. They receive from most of the Hindoo castes, not being particular about parentage, though ostensibly they neither accept Mahomedans nor Dhers. The ear is slit open in the centre to the length of an inch, and the wound kept open by a stick of nem wood, wrapt round with the soft downy feather of a peacock's quill, and kept wet. When sufficiently healed, large but light rings of lacquered earthen-ware are inserted, and after a year these are exchanged for rings of wood, horn, or hollowed metal, silver, or gold. These rings they consider the symbol and stay of their faith, and the Bawa informed me no khanphuttee ever survived their loss, whether breaking through of its own weight or torn off by others. Goruknath's displeasure was supposed equally manifest, and the brother was buried alive; that this indeed was the will of the parties, who could not be brought to survive the disgrace. As an instance, he mentioned one of his flock, whose ring some years ago had been cut off by a Bharwuttya, and a companion killed: he, the Bawa, and others endeavoured to persuade the survivor to let the ear be sown up and the ring replaced, but the sufferer was deaf to all entreaty, saying, "All things happen by God's command, and this is his token that I should not survive my brother:" they were accordingly buried together in the same grave. The only worship of the khanphuttees seems to be that of Goruknath, but they acknowledge the Hindoo Gods; they are under no restraint in matters of food, excepting the cow, which is held sacred, and the hog, which is unclean. They eat freely of fish, flesh, and fowl; all travellers are hospitably received and fed, this being a part of their code: their religion otherwise appears to consist in worshipping their idol once morning and evening; the rest of the day is passed in amusement or in indolence, except during their stated period of meals, when they assemble together to feast with such strangers as may wish to join them. Mental recreation seems an unknown thing among them. The Bawa himself, in his old age, betakes himself to fishing, but when younger his sport was more extended, judging from the appearance of the brotherhood. Ablution forms no portion of their ritual: they wear the dingy red Gosaen turban, which, with their huge ear-rings, form their only distinguishing marks. Notwithstanding their disregard to animal life in a country where such efforts are made to save the vilest reptiles, such is the inconsistent character of the Hindoo creed, that the Bawa is looked up to as a holy man by all classes! and I was informed that on his visits to Joodpoor the Sovereign refused to sit on a chair in his presence.

28. The above details represent a peculiar state of society, whether as respects the religious fraternities themselves or the people who encourage their existence. Ignorance and superstition is the condition of all, but there is a fund of natural religion evident herein, which gives token of better things when once the mind shall have expanded beyond its present chrysalite state. The influence of the bhats and charons over the community is generally on the wane; and, although the chiefs still continue to squander money in presents to them on marriages and other state occasions, yet their dread of their incantations and tragas is seldom retained. I have known several instances of lives being taken and much blood shed without the least effect being produced, whereas at the beginning of this century a single life offered in traga would have subdued the most stubborn landholder;* nothing, however, can prove the great change that has occurred during the short period of our rule in this province more than in quoting Col. Walker's words, that "the chieftain is aware that, without the aid of the bhat, *he can make no settlement* with Government," and in stating that at the present time there is not a single bhat so employed.

29. In alluding to hospitality as a marked feature of the country, I have made no allusion to the prevalent use of opium, which, on all occasions of a festive nature, or of equals associating with one another, is the universal token of friendship; it would require a chapter to treat on the use and effects of this drug: few Grassias abstain from it, and some consume the enormous quantity of a hundred grains a day.† There are few parts of the world where, as in Katteewar, a traveller, whatever his condition in life, may make sure of food at any village he may halt at. The *Mehman Khuruch*, as it is termed, is provided for by a roster, every householder having in turn to supply provision for the chance guest; and there is generally a chowra, a temple, a thakor wara, or sheltered place of some kind, where the pilgrim may rest himself.

30. It would occupy too much space to notice in detail the habits of the various tribes of the Peninsula: the marriage customs of the Kattees spoken of by McMurdo, wherein the bridegroom had to carry off the bride *vi et armis*, have entirely fallen into disuse; in them may be traced a connection with the Scythian tribes, from whom they have been supposed to be derived: to this day similar customs are in force among the Toorkomans. It would be wrong, however, to conclude any descrip-

* A striking case of traga is mentioned in Colonel Walker's report of 15th May 1808, paras. 78 and 82, which succeeded; whilst last year a more bloody one was committed against the son of the same chief without his appearing to trouble himself in the least: this is one fact out of many.

† The celebrated Bharwuttya Champraj Wala, when in the Rajkote jail, wasted gradually away until his dose of opium was augmented to ninety grains a day.

tion of this people without alluding to the prominent part taken by the fairer sex, in politics and in all the relations of life. The wives of the Rajpoots have generally more to do with the management of their estates than their lords; these are sunk in sloth and debauchery, whilst the ladies, whose intellects the use of opium has not clouded,hold, either directly or indirectly, the reins of Government. This remark is less applicable to the Kattees except as to indirect influence, but between the Mahomedan and Rajpoot states there is little difference. It is a strange inconsistency, that the Rajpoot and Mahomedan women, with whom the rule of the *Purda** is so rigid, should push themselves prominently forward in public affairs, whilst it should be the reverse with the Kattees, with whom, properly speaking, the notion has no existence, but who have merely given way to the customs of other leading tribes, in entertaining any desire for the concealment of females. The Kattee women have their natural rights,† and seem to wish no more; while the others who are debarred of them take much more than they are entitled to. At present the Rajpoot Talookas of Wudwan and Limree are directly governed by female regents; and the Mahomedan ones of Joonaghur and Mangrol Poorbunder was better managed by the recently deceased widow of Rana Khimajee than it now is by her son Wikmajee. The Purda adds nothing to the character of chastity of the sex; and fictitious pregnancies amongst the widows are the general if not invariable consequences of the decease of a husband without heirs amongst the Rajpoot chieftains. These have generally from two to four wives according to their wealth; but no limit is assigned beyond that of their convenience, and the intrigues of the durbar for influence. The Mahomedan laws and customs need no description. The Kattees limit themselves generally to one wife, and the character of their females ranks far higher than that of the other two predominant tribes,—a necessary result from their higher position in the social scale, since they are treated by the husband more as companions; and even when he has more than one wife all share alike in his society. Nothing can prove the degrading effects of polygamy as practised in this Peninsula, more fully than the dread entertained by every Rajpoot chieftain of being poisoned by his wives, especially if any one have an heir to the gadee:—food prepared by them is never touched but with due precaution; but the chiefs of the Peninsula are too ignorant to reflect on the evils of polygamy though daily brought home to their own doors.

* Curtain always interposed between the male visitor and the lady of the house.

† I mean as to social position, but must exclude from this the law of inheritance, which grossly neglects the females; for instance Mooloo Wala, the present chief proprietor of Jeitpoor, has inherited the estates of two elder brothers, whilst the daughters of one of them have been left nearly destitute, and a mere life-maintenance only given for themselves and the two widows.

31. This letter has already reached to such a length that I must hasten to curtail my remaining observations, leaving altogether for a subsequent report a sketch of the present condition of the principal states, which information may be deemed of an ephemeral nature, and best therefore kept separate from a report that attempts to give a view of the more permanent features of the country.

32. *Ports and Traffic.*—I enclose a list of all the bunders of the peninsula (Appendix, Enclosure 7) : the best, and from which traffic is chiefly carried on, are the following:—In the Gulph of Kutch—Jooria, Sulaya, and Wuwania; on the west coast—Poorbundur and Bilawal (or Verawul); and a good deal of cotton is exported from Mangrol, though its port is little better than an open roadstead. On the south—Diu, Jaffrabad, and Mowa; and in the Cambay Gulph—Gogo, Bhaonuggur, and Dholera. The chief trade of the country is with Bombay, and the principal export cotton; but, as shewn in my account of Burda, there is commercial intercourse with Africa, Arabia, Mukran, Sinde, Kutch, and the whole line of the western coast of the continent, and a small coasting trade is carried on by vessels from the Persian Gulph. The exports are cotton, wool, grain, (chiefly bajree, wheat, and til,) ghee, goor, oil (extracted from til), horses, and cattle. The imports are bales of cloths and piece goods, and various European manufactures, and goods, cutlery, metals; wood and cocoanuts from the Malabar coast; ivory and spices from Africa and Arabia; dates and stone fruits from the Persian Gulf; rice and oxen from Scinde; opium, dyes, and cloths for wearing apparel, are brought from Marwar.

33. *Metals, Minerals, &c.*—Iron is manufactured from native ore, found in Hallar and Burda, to the extent of about a hundred tons annually;* copper is said to exist in the small ridge of hills running southward from Bhudle, and also near Nuwanuggur, but I have had no opportunity of testing these statements, and no mines are ever known to have been worked. Gold in minute quantities can be obtained, it is said, by washing the sand of the Sourekha† River, that springs from the Geernar, but the expense of extracting it exceeds the value of the produce. I cannot trace any authority for the statement in one of Captain MacMurdo's papers, that gold was found in the bed of the Ajee River, nor the existence of any other metal; neither is any coal to be found. Pearls, of an inferior quality, are procured from the

* On this subject a report was transmitted to Government in 1837, which has since been published by the Agricultural Committee of the Royal Asiatic Society of London.

† Literally gold dust, which is the old Sanscrit name for it, "Sowurn Seekta," found inscribed on the Geernar Rock: whether it be the same river as the "Pulashee," or Pala Seena, also mentioned therein, but applying to a different portion of it, or a separate stream, I have not been able to ascertain.

banks in the Kutch Gulph between Nuwanuggur and Jooria. Mineral springs exist at Pind Taruk, in Okhamundul, and at Toolsee Sham, in the Gheer, but they have not, I believe, been analyzed: the latter is a hot spring, the temperature of which is too high to permit of persons bathing in the first basin built to receive it; for this purpose a chain of reservoirs is constructed, and the place is, of course, considered holy—the Hindoos having no idea of accounting for such deviations from the usual course of nature but by the miraculous intervention of some one of their many deities.

34. *Agricultural Products.*—Cotton is the grand staple of the country, as far as the export trade is concerned. It is estimated that 2,67,606½ Indian muns* are grown, as per annexed return (Enclosure 8,) of which amount nearly half is exported. Wool has of late years also become an article of external traffic, and the facilities for breeding sheep which the pasturage of the country affords, and the quality of the wool in fineness and softness, bid fair for a considerable increase in this article, and might repay an European speculator who could devote attention to improvement of the breed. Most, if not all of the Indian grains are here raised, but the staple of the Peninsula is Bajree, except in seasons of drought when Jowarree is the chief article of food. This is owing to the nature of this grain, which admits of its being kept under ground in pits for several years, whereas the other grains spoil by so keeping. Jowarree is, therefore, the standing resource in times of famine. Wheat is raised in Jhalawar by the monsoon, but in other parts of the Peninsula it is grown only by irrigation: the number of wells enable the inhabitants to grow enough for their maintenance during partial droughts, though the cattle of course suffer on such occasions. Sugar cane is grown all over the country; but nothing beyond the common sort of goor is manufactured. An attempt was made by the Soonderjee Firm some years ago but failed. As the price of grain forms one of the elements by which to judge of the state of society, I do myself the honour to annex tables (Enclosure 9) shewing the variations therein during the last half century in different parts of the country.

35. *Domestic Animals.*—The Katteewar breed of horses has long been celebrated in India. I find a letter from Government in the records,† in which the superiority of the original Katteewar horse for cavalry purposes over every other breed in India, is stated as an established fact; and the opinions of Lieutenant-Colonel L. Stanhope, and officers of the 17th Dragoons, are quoted, that this Regiment (supplied chiefly

* Of 40 Seers, 80 Rs. to the Seer.

† From Mr Chief Secretary Norris to Captain H. Jamieson, Superintendent of Breeding Establishment, dated 15th February, 1827.

from Katteewar) was in 1813 better mounted than any corps in His Majesty's service. Since then, the breed seems to have deteriorated, partly from the changed habits of the Kattee breeders, partly by the dreadful famine of 1812-13, which swept away thousands; and partly from the sale of horses who are withdrawn from the country at an early age—the Kattees, and indeed all the Chiefs of the Peninsula, preferring Mares for their personal use. Unless some active measures are taken by Government to prevent further deterioration, it is to be feared that the race will lose for ever its distinguishing character. The Cow, of the species termed Desan, is a native of the Western and Central districts of Katteewar, * very much prized both in and out of the Province. Buffaloes, and the other Cattle common to the continent, are in abundance. A really good Desan Cow will bring its owner as high a price as 40 Rupees; and a Milch Buffaloe 60. In Okhamundul a small breed of Camels are reared, as also in some other quarters, but the breed is very inferior to that of Marwar.

36. *Ferœ Naturœ.*—Lions are to be found in various parts of the Country. It is quite a mistaken notion of the European Naturalist to speak of the Maneless Lion of Guzerat; their Mane is less than that of the African Lion, perhaps owing to the jungly nature of the districts they frequent, whilst those of Africa roam at large over the vast plains of that continent. Cycles of time may possibly suffice to produce a change in the breed corresponding to the habitat of the genus, but even if otherwise, the quantity of hair lost during the course of years by any one denizen of the thorny forests may account for its diminution. In size and ferocity they equal the Lions of Africa, though the last point is perhaps doubtful. Panthers (the spotted Leopard) and Cheetas † (or the hunting Tiger) are very common; so are the Neelgaee: and as to the common red Antelope, hundreds may be seen on a day's march in almost every direction. The Black Buck, the most beautiful perhaps of the Antelope species, abounds in certain districts only. The Genus Cervus (the Sambre) is to be met with only in the Gheer, where also the Cheetul or spotted deer is said to reside. Hogs, Hyænas, Wolves, Jackals, the Wild Cat, Foxes, Porcupines, and the smaller Vermin, abound. One of the most striking characteristics of the Peninsula are the rats which appear at intervals in myriads, to the great detriment of the country. The year Sumvut 1871, A. D. 1814-

* I allude to the Prant so called, and not Soorashtra generally. The former I spell, for distinction sake, agreeably to the native orthography; but I have left the term Katteewar for the Peninsula, as usually written by English authorities.

† Writing as a sportsman, I should say that the Government table, which gives an equal reward for the destruction of these two animals, is founded on an erroneous principle. The Panther is by far the most destructive of the two, and most dangerous to assail.

15, goes by the name of the Rat year, " Oondrio Sal," from the famine produced by their ravages; and so recently as the year before last, great injury was done by these mischievous vermin: they appear suddenly in dense masses, past all counting, as if springing from the earth, about the harvest season: nothing can stop them—fires, ditches, and water have been tried in vain; they move along, a mighty host, eating up all that comes in their way; all at once they vanish as if by magic, and for years not one is to be seen: they are about double the size of the common rat, and of a reddish sandy color. The Armadillo, or at least an animal very much resembling it in habits and appearance, is sometimes to be met with: the scales of this species are loose, like the greaves of chain armour, and not hide-bound as in the American Armadillos.*

37. *Manufactures and Arts* have nearly been annihilated by the united power of capital and machinery in England, and the invention of steam; those still existing are simple, and suited only to the wants of the population. Dungaree, both fine and coarse, is woven in almost every town by the Dhers, one of whose occupations it is considered; but the Mehman tribe are also considerable manufacturers. Coarse Woollens are woven in many parts of the country, especially in Dhorajee, where also Carpets are made. Linen seems unknown. Silk is manufactured at Nuggur and Poorbunder from the raw material imported from Bombay, but I doubt whether the speculation has answered. Cloths are dyed all over the country, but those of Nuwanuggur are the most prized. The carpenters, blacksmiths, and stonemasons of Katteewar, are equal in skill to those of any part of India, exclusive of the capitals. The blacksmiths are most prized who have immigrated from Kutch; good matchlocks, swords, daggers, &c., are manufactured within the peninsula. Judging from the architecture and tracery on some of the old temples, the art of sculpture would seem to have deteriorated, as the more modern figures are deficient in proportion and grace, whilst the ancient ones show a master's touch. There are three mints in the country where silver is coined: the Dewan Shaee Coree of Joonaghur, the Jam Shaee of Nuwanuggur, and the Rana Shaee of Poorbunder, but the die is of rude construction. The art of painting, or even of design, seems unknown, and that of music is in a very low state. Printing and lithography have no existence.

38. *Roads and Communications.*—There are no made roads or canals in the country; the soil, however, permits of good natural roads, and the drainage by multitudes of streams prevents even the

* Since writing the above I have been informed by Dr Nicholson, that the specific name of this animal is " Manis Crassicaudata."

black soil from seriously interfering with monsoon communication. The roads might be rendered excellent by small outlay, but the Chiefs are indifferent to the improvement of their estates, and the tenure by which the best Karbharrees hold their power is too fragile for them to attempt deviation from the customary routine.

39. This peninsula contains in itself the elements of natural strength. Its geographical position and numerous ports point it out as the connecting link between Africa, Arabia, Persia, and the Indian continent: its soil is productive, especially Katteewar. The Geer forests produce timber for building, and abundance of fuel. Iron might be worked to any extent, as the ore abounds. The horses and cattle are of good description, and no country possesses greater facilities for internal communication; but under the rule of semi-barbarian chieftains, it may be termed a giant asleep. A languid circulation goes on sufficient to preserve existence, but otherwise there are no signs of life.

I have the honor to be, &c.,

(Signed) G. Le G. Jacob,

Acting Political Agent.

(Enclosure

FINANCIAL AND.

PRANT OR DIVISION

TABLE of TALOOKAS as per Colonel WALKER's Permanent Settlement Jurisdictions.

N.B.—*The Tribute of this Province*

No. in Mr Blane's List.	No. of Sept. Jurisdictions.	Class.	Names of Talookas.	No. of Towns or Villages in each Talooka.	Estimated Population.	British Tribute as fixed, or supposed to have been fixed, by Col. Walker.	Permanent Remissions or Corrections.	Authority for Remissions or Corrections.	Correct balance now due by each Tributary.
				A					
1	1	2	Hulwud Drangdra..	114	51,709	48,909	5000	Govt. Letter, 13th January 1837, & Govt. Letter dated 16th Novem. 1840, No. 2501, paras. 2 & 3.	43,909
						B			
2	2	2	Limree	72		51,931			51,931
			Deduct belonging to it but under Ahmedabad	33					
			Balance under this Agency	C 39	27,820				
3	3	3	Kuntharia	2	1120	1610			1610
4	4	3	Karol	2	380	758 8			758 8
5	5	3	Kumalpoor	1	160	837 8			837 8
6	6	3	Kumlao	2	360	788			788
7	7	3	Geree	2	320	1296			1296
8	8	3	Chuchano	1	160	343			343
9	9	3	Chulala	1	200	1048			1048
10	10	3	Jakkun	1	160	261			261
28	11	3	Khandia	1	200	870			870
12	12	3	Tulsana	3	720	985 8			985 8
13	13	3	Tavee	1	120	335			335
14	14	3	Dewlia	2	300	504			504
15	15	3	Durod	1	140	395			395
16	16	3	Pulalee	2	80	385 8			385 8
17	17	3	Bhocka	3	1000	1899			1899
18	18	3	Bhuthan.....	1	160	692			692
19	19	3	Bhulgamra.....	3	600	1512			1512

No. I.)

STATISTICAL TABLES.

OF JHALAWAR.

—shewing subsequent alterations and present number of Separate

was originally fixed in Ahmedabad Sicca Rupees.

Portulubee to the Nuwab of Junaghur, as consolidated from various currencies into Ahmedabad Sicca Rupees.			Total amount permanently due from each Talooka, calculated in Ahmedabad Sicca Rupees.		Temporary Remissions granted in Sumvut 1897, A.D. 1840-41.			Remarks.
4325			48,234		4,909			A—Not including 16 waste villages.
1501			53,432		.....	...	..	B—Of this amount a sum of Rs. 16,250 is credited to the Chief for realizations made by the Collector of Ahmedabad on account of his Purgunnah of Burwalla, which was subject to that Zillah since its original formation; but as the same had previously formed a part of the Limree Talooka, the same has been brought on Colonel Walker's Permanent settlement of Katteewar Tribute.
								C—Not including 2 waste villages, viz. Chalia and Wenjraj.
225			1835					
100			858	8				
			837	8				
150			938					
150			1446					
			343					
54	8		1132	8				
50			311					
57	8		957	8	.....	...	...	These several states belong to the different branches of the Limree Bayad.
150			1135	8				
27			362					
60			564					
54	8		449	8				
50			435	8				
301			2200					
65	4		757	4				
213			1625					

No. in Mr Blane's List.	No. of separate Jurisdictions.	Class	Names of Talookas.	No. of Towns or Villages in each Talooka.	Estimated Population.	British Tribute as fixed, or supposed to have been fixed, by Col. Walker.			Permanent Remissions or Corrections.			Authority for Remissions or Corrections.	Correct balance now due by each Tributary.		
			Limree Bhayad continued	29	6 18	14 520							14,520		
20	20	3	Bhudwana	2	460	1078							1078		
21	21	3	Laliad	1	300	39							39		
22	22	3	Wunala	1	360	428							428		
23	23	3	Sumla	2	400	1035	8						1038	8	
24	24	3	Sinooka	1	300	560							560		
25	25	3	Oontree	1	240	532							532		
26	26	3	Ankewalia	3	800	1403							1403		
			Total Limree Bhayad	49	9040	19.947	8						19947	8	
			N.B.—Nine villages of the Limree Bhayad under Ahmedabad, not included in the above list.												
27	27	2	Wudwan.....	36		28,331			500				27,831		
			Deduct belonging to it, but under Ahmedabad.	6											
			Balance under this Agency	30	32,220										
11	28	3	Jhampodur.....	1	200	148	8						148	8	
29	29	3	Kheralee	2	800	732							732		
3	30	3	Goondeealee ..	2	800	1520							1520		
31	31	3	Jhummur	1	160	501							501		
32	32	3	Doodrej	2	800	1189	8						1189	8	
33	33	3	Bhalora	1	240	512							512		
34	34	3	Rajpur	2	800	2804			200			Govt. Letter, 16th Nov. 1840, para. 5.	2604		
35	35	3	Wurod.....	3	1,200	1553	8		202			Ditto.	1351	8	
36	36	3	Wuna	3	7,360	4011							4011		
			Total Wudwan Bhayad	17	12,360	12.971	8		402				12569	8	
37	37	2	Wankaneer	70	14,000	18,809	...	...	.....	...	...	.....	18,809		
	38	3	Meshria.....	1	240	.....	...	...	.....	...	...	.....	.....	...	...
38	39	2	Than Luktur.....	35	.....	7502	...	...	201	...	...	Govt. L. 16th Nov. 1840, p. 5.	7301	...	...
			Deduct under Ahmedabad.....	4											
			Balance under this Agency.....	31	28000										
	40	3	Withulghur.....	6	2,820	.....	...	...	.....	...	...	.....	.....	...	...

Zortulubee to the Nuwab of Joonaghur, as consolidated from various currencies into Ahmedabad Sicca Rupees.			Total amount permanently due from each Talooka, calculated in Ahmedabad Sicca Rupees.			Temporary Remissions granted in Sumvut 1897, A. D. 1840-41.			Remarks.
1667	12		16,187	12					D—Not including one waste village, viz. Chulalee.
90			1168						
			39						
			428						
112	8		114						
69	12		629	12					
50			582						
244			1647						
2334			22,181	8					
2896			30,727			.....	...	...	
			148	8					
			732						
			1520						
			501						
105			1294	8					
			512						
201			2805						
300			1651	8					
300			4311						
906			13475	8					
1,572	8		20,381	8		2,309	...	...	This village, formerly under Wankaneer, was obtained by Bucha Jemadar, a Sindee officer of rank in the service of the Gaekwar, in S. 1868, A.D 1811-12, and has since constituted a separate Talooka independent of Wankaneer, together with other villages in Katteewar, now held by his son Goolam Hoosein Buchabhace.
.....	...	...	.....	...	..	.....	...	...	
501	...	...	7,802	..	...	.....	...	...	MESHRIA.— Meshrioo in Jhalawar..... 1 / 240; Theekrialoo and Peeplioo in Katteewar..... 2 / 140; Beelree in Katteewar..... 1 / 200; Grand Total Meshria.. 4 / 580
...	...	...	.....	...	...	.....	...	..	These villages were obtained by Babojee Apojee from the Than Luktur chief in S. 1862, A.D., 1805-6, and now constitute an independency under his grandson Bhaskur Rao Wittul, together with other villages in Katteewar and Muchoo Kanta.

TABULAR SUMMARY OF THE WUDWAN TALOOKA.

Pranta.	Villages.	Population.	British Tribute in Ahmedabad Rupees.			Gaekwar Tribute in Ahmedabad Rupees.			Zortulubee in Ahmedabad Rupees.			Total.		
Jhalawar Total as shown in this List	30	32,220	27,881	1	7				2896			30,727	1	7
Kerala in Katteewar	1	6	67									67		
Grand Total of Wudwan ...	31	32,280	27,898	1	7				2896			30,794	1	7

No in Mr Blane's list.	No. of Separate Jurisdictions.	Class.	Names of Talookas.	No. of Towns or Villages in each Talooka.	Estimated Population.	British Tribute as fixed, or supposed to have been fixed, by Col. Walker.	Permanent Remissions or Corrections.	Authority for Remissions or Corrections.	Correct balance now due by each Tributary.
39	41	3	Kesria, Than Bayad	1	100	300			300
40	42	3	Moolee	19	9,600	8,908	810	Ditto.	8098 ... ...
41	43	3	Moonjpoor Moolee do.....	1	600	651			651
42	44	2	Saela	32	7,952	18.782			18.782
43	45	3	Choora	12	8,160	6978			6978
44	46	3	Kurmur of the Choora do.....	1	300	151			151
45	47	3	Dussara.....	20	7200	14,001	....	.....	14,001 ... ...
46	48	3	Bujana	26	9320	8615			8615
47	49	3	Patree	6	800	5652	....	.....	5652 ... ...
48	50	3	Jhinjoowara	13	7960	12005	....	.....	12005 ... ...
49	51	3	Wunod	13		2108			2108
			Deduct under Ahmedabad & Puttun	8					
			Balance under this Agency	5	4284				

Zortulubee to the Nuwab of Joonaghur, as consolidated from various currencies into Ahmedabad Sicca Rupees.	Total Amount Permanently due from each Talooka, calculated in Ahmedabad Sicca Rupees.	Temporary Remissions granted in Sumvut 1897, A.D. 1840-41.	Remarks.
	300		
			Villages. Population.
2,001	10,099	.....	Withulghur.. Jhalr. Total as shown in this list ..... 6 2820 Kattewar, vide that Prant..... 2 700 Hudala in Muchoo Kanta ..... 1 60 Grand Total of Withulghur..... 9 3580
	651		
550	19 332	2,782	
730	7708		
34	185		This Talooka originally consisted of 27 villages, but 7 of these (one a Paekast village) being exclusively under Patree. and amenable to the Political Agent's authority, the same have accordingly been brought under that Talooka, though they pay now, as hitherto, an Oodra tax to Dussara in the following proportions :— 1 Guruwuloo..... 2 Murukee, a Paekast village, the lands of which have been absorbed by the former... } Rs.1.804 15 0 3 Goreeawur.. 543 5 0 4 Bamunwa.. 525 0 0 5 Nuvrungpuroo..... 245 0 0 6 Sawura ..... 921 0 0 7 Cheekasur ..... 151 0 0 Ahmedabad Rupees..... Rs.4190 4 0 This sum, however, is distinct from the Tribute payable by the Talooka.
.....	14,001	2000	
	8615		
.....	5652	.....	12 villages, inclusive of Patree, are shown in Mr Blane's List as appertaining to this talooka, but these being now exclusively under the Ahmedabad jurisdiction, have been omitted in this list, and the villages transferred from Dussara, as above explained, are those noticed in their stead. As, however, an item of Rs. 5625, as Ghansdana, which was levied by Babojee Buchajee, and confirmed in Col. Walker's permanent settlement, on account of the 12 villages made over to Ahmedabad, is still payable by Patree to this agency through the Collector, that talooka, as well for this reason, and as being the state to which the Dussara villages transferred to it are directly subordinate, is still retained in this revised list as a separate jurisdiction.
.....	12005	.....	The supervision of this talooka was made over to the Collector of Ahmedabad A. D. 1821, but by Government Letter dated 20th February, 1839, (No. 349) the criminal jurisdiction of the Political Agent's court was extended over it in consequence of its not being under the Company's regulations; the village of Rojewa was included in this decision, the Nuwab of Radhunpoor having declined the jurisdiction. See further G. L., No. 1160, 17th June, 1839.
	2108		

No. in Mr Blane's List.	No. of Separate Jurisdictions.	Class.	Names of Talookas.	No. of Towns or Villages in each Talooka.	Estimated Population.	British Tribute as fixed, or supposed to have been fixed, by Col. Walker.	Permanent Remissions or Corrections.	Authority for Remissions or Corrections.	Correct balance now due by each Tributary.
50	..	...	Tunkara.....	9	5000	16,000	6000	G. L. No. 92, 12th Jan. 1841.	10000 ... ...
51	52		Bharejra	1	400	101			101
52	53	3	Raee	1	200	300	....	...	600 ... ...
53			Sanklee	1	240	300 . ..	....	...	
	51	Pyg.	Tribute } Tot. Raee						
	2	Not	Ditto } & Sanklee	2	440	600	....	...	600 ... ...
Tot.	53		Grand Total Jhalawar	496	240325	283253	12913		270340

Zortulubee to the Nuwab of Joonagbur, as consolidated from various currencies into Ahmedabad Sicca Rupees.			Total Amount permanently due from each Talooka, calculated in Ahmedabad Sicca Rupees.			Temporary Remissions granted in Sumvat 1897, A.D. 1840-41.			Remarks.
.....	...	...	10000	...	...	2750	...	..	Under Morvee.
			101						
.....	...	...	600	.	...	.....	...	...	These two villages, being under the same proprietor, are now incorporated together, as one separate jurisdiction only. They originally belonged to the Limree Bhayad, and were written over to Dessaee Desabhaee Ramdass, in S 1865, A. D. 1808-9: his son Jewabhaee Desabhaee is now the proprietor.
.....	...	...	600	..	...	.....	...	..	
17,250	8		287590	8		14750			

TABULAR SUMMARY OF THE RAEE AND SANKLEE TALOOKAS.

Prants.	Villages.	Population.	British Zortulubee in Ahmedabad Rupees.			Gaekwar Tribute in Ahmedabad Rupees.			Total.		
Jhalawar Total, as shown in this List	2	440							600		
Dhuma in Katteewar.....	1	800				412	8		412	8	
Grand Total.....	3	1240	600			412	8		1012	8	

(Enclosure

PRANT OR DIVISION

Table of Talookas as per Colonel Walker's Permanent Settlement—

No. in Mr Blane's List.	No. of Separate Jurisdictions.	Class.	Names of Talookas.	No. of Towns or Villages in each Talooka.	Estimated Population.	Tribute as fixed, or supposed to have been fixed, by Col. Walker. British.	Tribute as fixed, or supposed to have been fixed, by Col. Walker. Gaekwar.	Permanent Remissions or Corrections. British.	Permanent Remissions or Corrections. Gaekwar.	Authority for Remissions or Corrections.	Correct bala from each British.
1	1	1	Amrellee	A 99	32000		1600			No authority can be traced, the Gaekwar power being paramount during the time of these Talookas falling under his muhal of Amrellee between the years S. 1865-68, A. D. 1808-9, 11 and 12.	
2	Khalsee under Amrellee		Ambulree	1	160		280		280		
3			Ambla	Waste			80		80		
4			Keerala	1	160		135		135		
25			Sumundhala Nana	1	80		40		40		
2[illegible]			Kumee	1	120		85		85		
31			Turwura	1	120		260		260		
32			Deola	1	300		500		500		
33			Deetulwudur	1	200		265		265		.. .. ..
34			Dhareejuganee ..	1	60		260		260		
35			Meree.....	1	120		35		35		
36			Lampalia	2	160		50		50		
38			Sumundhiala	1	320		501		501		
52			Jhur	1	240		551		551		
63			Jingoraloo	1	120		225		225		
15			Dharee, a sub Purgunna, embracing 20 Talookas following :—	1	2000		500				
5	All subject to Amrellee under its Dharee Purgannah.		Ketra	1	80		50				
6			Kobra	1	80		100				
7			Katwaree ..	1	80		75				
8			Keecha Nana	1	120		75				
9			Khumballo ..	1	160		100				
10			Jeera	1	120		75				
11			Jinkeealee ..	1	160		75				
12			Teekria	1	80		50	..	.. .. .	...	.. .. ..
13			Dhabalee.. .	Waste			25				
14			Dhulkanioo ..	1	160		50				
16			Dharugnee..	1	240		300				
17			Peepraloo ..	1	40		25				
18			Menduwra ..	1	200		200				
19			Mewassa ..	Waste			25				
20			Kureeoo ...	1	40		25				
21			Veerpore.....	1	200		75				
22			Surseeo	1	800		300				
23			Seewur	1	60		25				
24			Sirumbra....	1	400		400				
26			Holree	1	40		50				
27	Under Amrellee direct.		Kumeeghur ..	1	160		176	.. ..	.. .. ..	... .. .	..	.. ..
29			Nagdhuree ..	1	120		200	.. ..	.. .. ..	. .. ..	..	.. ..
30			Chulalee ...	6	2160		1701	.. .	. .. ..	.. .. ..	..	.. ..
37			MankiaMhota	1	600		553	.. ..	.. .. ..	.. .. ..	..	. ...

No authority can be traced for the transfers occurring between the years S. 1863 and 1868. Vide note in previous columns.

No. II.)

OF KATTEEAWAR.

shewing subsequent alterations and present number of Separate Jurisdictions.

nce now due Tributary.	The same converted from Ant or Soortee into Ahmedabad Sicca Rupees.		Zortulubee to the Nuwab of Joonaghur, as consolidated from various currencies into Ahmedabad Sicca Rupees.	Total amount permanently due from each talooka in Ahmedabad Sicca Rupees.	REMARKS.
Gaekwar.	British.	Gaekwar.			
1600		1760	4966 8	6726 8	A.—Not including waste villages.
.. .. ..	.. ..	.. .. ..	.. .. ..	.. .. ..	These 14 talookas in Mr Blane's list have become Khalsee under Amrellee, and their tribute is only nominally entered in the books, not having been realized since they were written over. The sum total of these 14 villages, Rs. 3267, must be considered as permanent deduction from the amount of Gaekwar tribute. The villages are distributed under different Tuppas, viz. Amrellee, Dharee, and Dhanturwur.
Soorte 2600	.. .. ..	2860	.. .. ..	2860 .. .	N. B. These twenty-one talookas, viz.—No. 5 to 24, and No. 26, have become consolidated under Amrellee, and are included under the Dharee Tuppa in the accounts, the tribute of all these villages being charged in one sum of Rs. 2600 to Dharee, and added to that of the Amrellee talooka.
176	.. ..	193 9 7	.. .. ..	193 9 7	
200	.. ..	220	.. .. ..	220	
1701	.. ..	1971 1 7	.. .. ..	1871 1 7	
553	.. ..	608 4 9	... .	608 4 9	

TABULAR SUMMARY OF THE AMRELLEE TALOOKA.

Pranis.	Villages.	Population.	Tribute in Ahmedabad Rupees. British.	Tribute in Ahmedabad Rupees. Gaekwar.	Zortulubee in Ahmedabad Rupees.	Total.
Katteewar as shewn in this List.....	180	44180	1750	12556 12 11	4966 8	19272 7 11
Kareenar in Soruth.....	65	15520		9600		9600
Kheejroo in Gohelwur.....	1	200		241 3 2		241 3 2
Khakhace in Babriawar ...	1	160		110		110
Grand Total of Amrellee	247	60060	1750	22508 3 1	4966 8	29224 11 1

No. in Mr Blane's List.	No. of Separate Jurisdictions.	Class.	Names of Talookas.	No. of Towns or Villages in each Talooka.	Estimated Population.	Tribute as fixed, or supposed to have been fixed, by Col. Walker.						Permanent Remissions or Corrections.						Authority for Remissions or Corrections.	Correct bala by each		
						British.			Gaekwar.			British.			Gaekwar.				British.		
			Ghawurka	1	160																
			Rungpur	1	140																
			Khoree	1	100																
			Chawund Tuppa	6	1520	..	..	..	..	..	..	..	..	..	..	..	..	..	1750	..	..
			Total Amrellee ..	150	44180				10097						3267				1750		
			Rusnal..... ..	1	400	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
			Peepulwa	1	300	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
			Total under Withulghur..... ..	2	700																
39	2	3	Jetpoor Cheetul..	..	..	54264	..	..	..	..	..	..	..	..	..	..	..	..	54264	..	..
			In entire proprietorship.....	72																	
			In joint do with Joonaghur.....	B 66																	
			Total...	138	48092				Ant.												
57			Loharla..	1	400	..	..	..	447	..	..	..	..	..	447	•	..	..		..	..
			Total Jetpor.. . ..	189	48,492	54,264			447						447				54264		
40	3	3	Beelka....	C 11	1952	..	..	..	Ant. 3544	..	..	..	..	.	D 2453	5	4	..	..	..	..
42	4	3	Babra Chumardee	6	3380	1800	..	.	Ant. 1750	..	.	D 1750 / 50 / 1800 / 50	.. .. / .. .. /	.. / . / .	Paid Remit d 1750	by te	A d	mrellee. in correctio	n of e	r	o
	5	3	Derree Janbace...*	1	500	..	..	..	..	..	...	..	...	..	..	.	..	...	..	...	..
41	6	3	Bugusra.....	E 16	7452	..	.	..	Ant. 2595	..	.	..	..	..	..	..	..	..	..	...	..
43	7	3	Kotra Peetha	15	4260	5236	..	..	..	..	..	..	..	..	..	..	..	..	5236	...	..
44	8	3	Kanpor Eshwuria.	2	560	S 226													226		
45	9	3	Kuner.....	1	160				S 191												
46	10	3	Kathrota.....	1	160				S 51												
47	11	3	Kheejria.....	1	120				S 51												
48	12	3	Gurumlee Mhotee	1	200				S 192												
49	13	3	Do. Nhanee.....	1	200				S 190												
50	14	3	Gudhia.....	1	120				S 171												
51	15	3	Churka	1	800				S 493												
53	16	3	Jhamka.....	1	400				200												
54	17	3	Dholurwa.....	1	240				S 101												

...nce now due Tributary.			The same converted from Ant or Soortee into Ahmedabad Sicca Rupees.						Zortulubee to the Nuwab of Joonaghur, as consolidated from various currencies into Ahmedabad Sicca Rupees.			Total Amount permanently due from each Talooka, in Ahmedabad Sicca Rupees.			Remarks.
Gaekwar.			British.			Gaekwar.									
3453	5	4	..	..	..	2944	..	..	..	..	..	2944	..	..	Villages obtained from Beetkha by an arrangement effected by mutual consent, in August 1830.
Ant. 1750	..	..	1750	.	..	2100	..	..	..	..	..	3850	...	...	Formerly under Babra, retained by Amrellee by an arrangement sanctioned in St. 1878, A.D. 1821-22. Vide Govt. Letter, No. 1206, 20th October, 1823.
11033	5	4	1750	..	..	12556	15	11	4966	8		19273	7	11	
.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	These villages were obtained from the Babra Kattees by Babojee Appojee in S. 1862, A.D. 1805-6, and are now under his grandson Bhasker Rao Wittul.—See Withulghur, No. 40, in JHALAWAR.
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
..	..	..	54264	..	..	..	..	..	3499	..	..	57763	8	..	B. Total villages held (Mujmoo) in joint tenur with Joonaghur are 105, of which 66 are here estimated from the proprietary rights over these being somewhat more than those of the Nuwab; for like reasons *vice versa* 39 of these villages are included under the Joonaghur Talooka, 5 waste villages in which Jetpor claims part proprietorship not included in the list.
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	No proof existing of the Gaekwar claim to tribute on this village beyond a nominal entry in the records, it is struck off as Permanent Remission, the village having always belonged to Jetpor, which is tributary only to the British Government.
			54264						3499	8		57763	8		
1990	10	8	..	..	..	1308	12	10	600	..	..	1908	12	10	This remission was made on an arrangement effected in S. 1886, the same being paid by Amrellee, as above (A. D. 1829-30) shewn, in lieu of the villages formerly under the Beetkha proprietors, but assumed bythe Gaekwar manager. C.—Not including 4 waste villages, viz. Chorwaree, Thoombalaoo, Lotka, and Gherioo.
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	The whole tribute was remitted on an arrangement effected in S. 1878, A.D. 1821-22, and transferred, as above shewn, to Amrellee in lieu of the villages taken possession of by it. 50 was struck off the amount of British tribute.
—	..	...	..	..	.	..	..	...	..	..	..	..	..	.	D.—The Remission being made good by Amrellee is only nominal, and is not, therefore, included in the grand total of remissions. The same remark applies to 1750 out of 1800 Rupees marked as remission opposite the Babra Talooka: these sums having been entered opposite the villages transferred to Amrellee.
2255	..	..	..	..	...	3114	..	..	1666	8	..	4780	8	..	
..	..	..	5236	..	..	..	..	..	786	8	..	6022	8	...	The remaining 50 Rupees is remitted.—See G. L. 16th November 1840, as a correction of an error, and, therefore, included in the sum total of Permanent Remissions.
			248	9	7	..	..	..	126	..		374	9	7	
191						210	1	7				210	1	7	
51						56	1	7				56	1	7	
51						56	1	7				56	1	7	
192						211	3	2	26			237	3	2	
196						209						209			
171						168	1	7	23			211	1	7	
463						542	4	9	41	8		583	12	9	
200						200						200	..	..	
151						111	1	7	25			136	1	7	

* Belonging to an independent Charon.

E.—Not including one waste village, viz. Kuntasra.

By arrangement in A. D. 1838, S. 1894, the Kattee Grassias own ten annas share, and the Joonaghur Bhayad (Babee Oomur Khan) six annas.

No. in Mr Blane's List.	No. of Separate Jurisdictions.	Class.	Names of Talookas.	No. of Towns or Villages in each Talooka.	Estimated Population.	Tribute as fixed, or supposed to have been fixed, by Colonel Walker.		Permanent Remissions or Corrections.		Authority for Remissions or Corrections.	Correct now due each Tri-
						British.	Gaekwar.	British.	Gaekwar		British.
55	18	3	Bhulgar.....	1	160	S 200					200
56	19	3	Manawoo	1	120		S 146				
58	20	3	Lakhapadur.....	1	160		S 151				
59	21	3	Remains of the Wagnia Talooka. Monwel.....	1	500	.. .. ..	Ant. 1001	.. .. ..	.. ..	..	.. .. ..
			Rawunee	1	100						
	22	3	Vekria	1	240						
	23	3	Loongia	1	460						
60	24	3	Waguree	1	120	.. .. ..	S 133 .. .	.. ..	... .	..	.. .. ..
61	25		Silana.....	1	300		S 100				
62			Halria	4	800		S 100				
64	26	2	Jusdhun	24	10920	3611	.. .. ..	.. ..	. .. .	..	3611 .. ..
65			No authority can be traced for the transfer beyond the words of the proclamation, who were their villages to Jusdhun between the years S. 1868 and 1877, —A.D. 1811-12, 1820-21. Kothee	3	500	493					493
66			Koondnee ...	4	700	435					435
67			Kunesra	1	100	S 61					61
68			Jussapoor. ...	2	440	576					576
69			Modhooka ...	14	2800	2101					2101
70			Wurja Teerut	1	300	290					290
71			Setulioo.....	1	200	110					110
72			Hurmunthia.	1	300	S 151					151
73			Aneealee	2	300	285					285
			Total Jhusdun..	53	16560	8113					8113

Balance by Notary.	The same converted from Ant or Soortee into Ahmedabad Sicca Rupees.						Zortulubee to the Nuwab of Joonaghur, as consolidated from various currencies into Ahmedabad Sicca Rupees.			Total Amount permanently due from each Talooka, calculated in Ahmedabad Sicca Rupees.			Temporary Remissions granted in Sumvut 1897, A.D. 1840-41.						REMARKS.
Gaekwar.	British.			Gaekwar.									British.			Gaekwar.			
	220						63			283									This Talooka originally consisted of 15 villages under the name of the Wagnia Tuppa, was abandoned by its population owing to Ranig Walas going out into rebellion in 1868 S. A. D. 1811-12. He died in the famine year of S 1869, A. D. 1812-13. His son Bawa Walla being required to give security, wrote over in S. 1871, A.D. 1814-15, the villages of Wagnia to Jetpor to induce the chiefs to become security for them, but immediately went out in Bharwatya, feeling sore at the loss of his chief village. The Talooka remained uncultivated until S. 1877, A. D. 1820-21, when Bawa Wala came in and peopled 2 or 3 villages, residing himself in Weesawuddur in S. 1880, A. D. 1823-24. He was killed by the recent Bharwattyas Hursoor Walla and Bhoja Mangaree. The Talooka under Ranig Wala had divers claims on it of Jhoonaghur, Jetpor, and other Kattees, and the arrangement with him by which the amount of tribute was fixed seems to have been made without any reference to such claims on his death. Each person seized his own, and the Talooka is now distributed between a variety of persons, which has prevented the realization of tribute. From the difficulty of fixing the responsibility on any one, and from most of the villages being depopulated, until final arrangements be made, tribute has been claimed from the existing proprietors in proportion to the capabilities of the several villages.
				160	9	7	25			185	9	7							
				166	1	7	26			192	1	7							
	..	..	..	1201	3	2	..	..	..	1201	3	2	..	..	..	1201	3	2	
	..	..	..	146	4	9	21		...	167	4	9							
				110			41	12		151	12		..	..	..	..	..	..	Decided to be under Halria in the year A.D. 1831-32, Sumvut 1888.
				110			41	12		151	12								
..	3611	..	...	...	.	..	2645	8	...	6256	8	...	..	...	..	..	..	..	By the able management of the present chief and his father, the law of primogeniture has been in a measure established in the Talooka, although it will probably terminate with Chela Wajsoor's death.
	493									493									
	435									435									
	67	1	7							67	1	7							
	576									576									
	2101									2101									
	290									290									
	110									110									
	166	1	7				82	8		248	1	7							
	285									285									
	9134	3	2				2728			10862	3	2							

TABULAR SUMMARY OF THE JUSDHUN TALOOKA.

Pranta.	Villages.	Population.	Tribute in Ahmedabad Rupees.				Zortulubee in Ahmed. Rs.	Total.		
			Brit.		Gaek.					
Kattwr. Total, as shown in this List	38	16660	6134	3	2		2728	10862	3	2
Patna Maljee, in Gohelwar	1	500			481	3	28	481	3	2
Grand Total, Jusdhun	54	16660	6134	3	2	481	3	2	2728	11343	6	4

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						British.	Gaekwar.	British.	Gaekwar.		British.
74	27	3	Bhudlee..	17	..	S 1081	.. .. ..	.. .. ..	.. .. ..	..	1081 .. ..
			Deduct under Ahmedabad	1							
			Balance under this Agency	16	4548						
	28	3	Sumundhiala	1	200	.. .. ..	.. .. ..	.. .. ..	.. .. .	..	.. .. ..
75	29	3	Kurreana	9	3084	S 835					835
76	30	3	Anundpoor.....	18	3140	S 702					702
77	31	3	Choteela	12	1840	252					252
			Theekrialoo and.. .. Veeplioo	2	140	..	..	...	..	..	..
78	33	3	Khumbala	5	2040	S 554					554
79	33	3	Paliad	19	5100	979	..	.	..	..	979
80	34	3	Bheemora	9	1200	S 201	..	..	..	..	201
81	35	3	Bamumbor	1	120	S 75	...	..	..	...	75
82	36	3	Mehwassa	5	400	S 437	..	..	..	.	437
83	37	3	Matra Timba	1	200	S 285	.	..	..	..	285
84	38	3	Sunosra...	2	200	S 182	.	..	..	..	182
85	39	3	Eetria Gudhala	2	800	S 397	..	..	..	..	397
86	40	3	Chobaree	2	80	S 151	.	..	..	..	151
87			Kalasur..... ...	2	160	S 201	..	..	...	..	201
88	41	3	Neelwra	1	400	S 501 8	..	..	..	..	501 8
89			Atkot.....	2	1600	2149 8	..	..	..	.	2149 8
90			Bhadla	17		1626 8	..	..	..	...	1626 8
			Deduct under Ahmedabad	1							
			Balance under this Agency	F 16	3320						
91			Sanunthalee..... ..	G 8	1640	1477	..	337	..	Govt. Letter, Aug. 16, 1821.	1100
92			Burwala	H 8	800	1093	..	..	..	..	1093
93			Summundhiala	1	800	620	..	..	..	..	620
94			Panchaora	1	500	277	.		..	..	277
95			Ujmer	I 3	372	175	..	..	..	...	175
			Total under Nuggur..	39	9032	7418 .. .	.. .. ..	377	.. .. ..	..	7041 .. ..
	42	3	Kumundhia	1	400	.. .. ..	.. .. ..	.. .. ..	.. .. ..	..	.. .. ..
			Waoree	1	100	.. .. .	.. .. ..	.. .. ..	.. .. ..	..	.. .. ..
			Total under Meer Suruf Razulee..... .	2	500						

Is now due Tributary	The same converted from Ant or Soortee into Ahmedabad Sicca Rupees.						Zortulubee to the Nuwab of Joonaghur, as consolidated from various currencies into Ahmedabad Sicca Rupees.			Total amount permanently due from each Talooka, calculated in Ahmedabad Sicca Rupees.			Temporary Remissions granted in Sumvut 1897, A. D. 1840-41.						Remarks.
Gaekwar.	British.			Gaekwar.									British.			Gaekwar.			
.. .. ..	1189	1	7	..	..	...	276	..	..	1465	1	7	..	..	..	..	...	..	In consequence of the death of Bhan Khachur without heirs in A. D. 1840, this Talooka is claimed by his collateral relatives of the Kurreeana, Sheka Khumbala Etria Ghudhala Talookas, and of Goondala (a Bhaonuggur village).
.. .. ..	..	..	..	..	...	..	..	..	..	...	.	..	..	..	..	..	..	..	..	Belonging to an independent Charon.
	918	8					331			1249	8								
	772	3	2				221			993	3	2								Originally belonging to Choteela, but since the year S. 1868, A. D. 1811-12, under Goolam Hoosun Buchabhaee Jemadar.—See Meshria, No. 38, in Jhalawar.
	252						100			352	..	..	..	..	..	..	.	..		
..	..			..			..			..	..	..	..	..	..	..	..	..	..	
	609	6	5				177			786	6	5								F.—Not including one waste village, Sukpur.
..	979			..			330			1309			...	...	..	..	..	..		G.—do. do. 2 do., viz. Tuptee and Khakrioo.
..	221	1	7	..			55			276	1	7	.	..	..	..	..	..		H.—do. do. 4 do., Bheemoreee, Keraloo, Malgut, and Belra.
..	82	8		..						82	8									
..	480	11	2	..			123			603	11	2								I.—do.do. 2 do., Bhanmuttee and Wudal.
..	313	8		..			78			391	8									
..	200	3	3	..			55			255	3	3								
..	436	11	2	..			145			581	11	2								
..	166	1	7	.			49			215	1	7								
..	221	1	7	..			27	5		248	9	7	..	..	..	..	..	..		This village is under No. 80, and its other village of Kherdee is under No. 77.
.	551	10	4	..			166			717	10	4								
..	2149	8		.			..			2149	8	.	..	..	...	..	..	...		A.D. 1763-64 S. 1820
..	1626	8		..			..			1626	8	..	..	..	..	..	..	..		1790-91 S. 1847
..	1100			..			375			1475			..	..	..	..	..	..		A. D. 1804-5 S. 1861
..	1093			..			.			1093	..	.	...	..	..	...		..		A. D. 1793-94. S. 1850
..	620			..			..			620	..	..	..	..	..	..	..	..		A. D. 1798-99 S. 1855
..	277			..			..			277	..	..	..	..	...	...		..		A. D. 1788-99 S. 1855
..	192	8		..			..			192	8									A. D. 1790-91 S. 1847.
.. .. .	7058	8	..	..	..		375	..		7433	8	..	..	..	..	..	..	..	.	Under Noanuggur. The Jam's encroachments on these villages commenced so far back as S. 1820, A. D. 1763-64, as shown in the margin. The original proprietors appear to have set themselves up as such on the general settlement of the country in S. 1864, A. D. 1807-8, but the Jam's rights from long usage have been confirmed.
.. .. ..	..	..	..	..	..	..	..	..	..	..	.	.	..	.	..	.	..	..		A village formerly under Santhlee, but in possession of Meer Suruf, Razulee of Baroda, and as such constituting a separate jurisdiction.
.. .. ..	..	..	..	..	.	..	..	..	..	..	..	..	..	..	...	..	..	..		Originally belonging to Joonaghur, but since the year St. 1884, A. D. 1827-28, under Meer Surufraz Alee of Baroda.

No. in Mr Blane's List.	No. of Separate Jurisdictions.	Class.	Names of Talookas.	No. of Towns or Villages in each Talooka.	Estimated Population.	Tribute as fixed, or supposed to have been fixed, by Colonel Walker.		Permanent Remissions or Corrections.		Authority for Remissions or Corrections.	Correct ba due by eac
						British.	Gaekwar.	British.	Gaekwar.		British.
			Beelree	1	200	..	..	..	..	..	..
96	43	3	Dhandulpoor	14		1123	..	..	..	..	1123
			Deduct under Ahmedabad	1							
			Balance under this Agency	13	8360						
97	44	3	Soodamra	11	7252	1448	.	..	..	..	1448
98	45	3	Sejukpoor	3	2560	683	..	..	..	..	683
99	46	3	Rampurda	1	100	81	..	..	..	..	81
100	47	3	Wussawur	4	2400	S 751	..	..	..	.	751
101		3	Dhussa	1	800	..	S. 375	..	...	..	..
	48	3	Duheroo	3	300	..	..	..	...	..	..
102	49	0	Geegasurun	1	200	..	S. 527	..	..	..	.
103	50		Akria	1	200	S 126	..	..	..	...	126
104			Kerala	1	60	S 61	..	..	..	..	61
	51	3	Urjunsook	1	240		..	..	...	..	
	52	3	Weechawur	1	160	..	..	..	..	..	..
	53	3	Kooba	1	68	..	..	..	..	..	..
	54	3	Randhia	1	240	..	..	..	..	..	..
	55	3	Kheejria	1	120	..	..	..	..	..	..
	47		Paying Tribute..								
	8		Not do.								
Total	55		Grand Total Katteewar	610	189840	83363 8 ..	22606	427	3714	..	87936 8

nce now Talooka.	The same converted from Ant or Soortee into Ahmedabad Sicca Rupees.						Zortulubee to the Nuwab of Junaghur, as consolidated from various currencies into Ahmedabad Sicca Rupees.		Total amount permanently due from each Talooka, calculated in Ahmedabad Sicca Rupees.				Temporary Remissions granted in St. 1897, A. D. 1840-41.						Remarks.
Gaekwar.	British.			Gaekwar.									British.			Gaekwar.			
.	..			..			..		..	...	..		..			..			This village, originally a Charun's but under Samunthlee, was obtained by Bucha Jumadar in S. 1868. See Meshria, No. 38, in Jhalawar.
..	1123			..			301		1424	..	.		..			..			
..	1448			..			501		1949				..			..			
..	683			..			251		934				..			..			
..	81			..			..		81				..			..			
..	820	1	7	..			..		826	1	7		..			..			Jeewabhaee Dessabhaee obtained possession of nearly all the Dhussa Talooka in S. 1868, A. D. 1811-12, but by an arrangement sanctioned, Government letters, No. 1620, 31st Aug. 1837, and No. 703, 18th April 1838, the Kattees received the three small villages and a Patee in Dhussa—the Dessaee retaining Dhussa, and being responsi-
375	..			412	8		..		412	8			..			..			
..	..			..			..		..				..			...			
527	...			579	11	2	.		579	11	2		..			..			
...	138	9	7	..			27	8	166	1	7		..			..			for the tribute; this proprietor has also Raee Sanklee in Jalawar, and Dhussa is not therefore marked as a separate jurisdiction.
..	67	1	7	..			..		67	1	7		..			..			Under Wudwan, by whom the tribute is paid, under an arrangement sanctioned by Government letter, No. 328, 8th February, 1842.
..	..			..			..		..				..			..			Originally belonging to an independent Kattee, but since the year S. 1863, A. D. 1806-7, under Gopal Rao Meral of Baroda.
..	..			..			..		..				..			..			In S. 1864, A. D. 1807-8, this village being at the time waste, was given by Kattee Hoorsur to Gowreedass Trikumdas, who re-peopled it in S. 1865, A. D. 1808-9.
..	..			...			...		..				.			..			This village was purchased from the late Nawab Buchadur Khanjee of Joonaghur, by Brijdass Rungildas in S. 1891, A. D. 1834 35.
..	..			..			...		..				..			..			Belonging to an independent Syud, Daood Meyan.
..	..			..			..		..				..			..			Do. do. do., Ureez Meyan.
18892	..	68671	13	4	21650	2	10	18296	..	128618	0	2	..	.	..	1201	3	2	

No. 4 PRANT OR DI

TABLE OF TALOOKAS as per Colonel WALKER's Permanent Settlement,

N. B.—No Permanent Remissions or Corrections exist for this

No. in Mr Blane's List.	No. of Separate Jurisdictions.	Class.	Names of Talookas.	No. of Towns or Villages in each Talooka.	Estimated Population.	Tribute as per Permanent Settlement. British.			Gaekwar.			The same calculated in Ahmedabad Sicca Rupees. British.			Gaekwar.		
1	1	1	Nuwanuggur	494	193000	47259	..	...	45750	...	...	47259	...	..	53800	...	...
2			Formerly under the Jam, but obtained by Meroo Khuwas, and retained by his family until the British interference in St. 1871 restored them to the Jam Amrun, being left as a provision for the family, but under the Jam's sovereignty. Joria Balumbha.....	22	8260	...	...	...	Ant. 11607	...	...	...	...	..	13928	6	4
3			Hureeana ...	8	2720	...	...	..	Ant. 5627	...	..	...	...	...	6752	6	5
4			Bharookia...	1	200	...	..	...	Ant. 152	...	...	...	...	...	182	6	5
5			Amrun... ...	▲ 15	3500	...	...	...	Ant. 2404	...	...	...	...	...	2884	12	9
			Total Nuwanuggur	540	207680	47259	..	...	65540	...	...	47259	...	...	77547	15	11
6	2	3	Drapha.....	17	4000	4001	...	..	...	...	..	4001	...	...	..	..	...
7	3	3	Veerpur	3	60	1799	...	...	...	...	...	1799	...	...	...	...	...
8	3	3	Kuredee.....	1	800	1891	...	...	...	...	..	1891	...	...	...	...	...
9	4	3	Mooleraderee	4	1200	1380	8	...	...	...	...	1380	8	...	...	...	...
10	5	3	Satudur Waoree.....	5	2000	1583	...	...	...	..	...	1583	...	...	...	...	...
11	6	3	Seesang Chandlee.....	2	600	777	...	..	...	...	...	777	..	..	...	...	...
12	7	2	Gondul Dhorajee.....	156	84700	53005	...	...	Ant. 62000	...	...	53005	...	..	74400	...	...
13	8	3	Mengnee	8	1600	3684	...	...	...	...	...	3684	...	...	...	...	...
14	9	2	Kotra Sanganee	20	8000	11000	...	...	...	...	...	11000	...	...	...	...	...
15	10	3	Bhadwa.	3	300	1505	...	...	...	...	...	1505	...	...	...	...	...
16	11	3	Rajpurra.....	5	1200	3955	...	...	...	...	...	3955	...	...	...	...	...

VISION OF HALLAR.

shewing subsequent alterations and present number of Separate Jurisdictions.

Prant, the column for that heading is consequently omitted.

Zortulubee to the Nawab of Joonaghur, as consolidated from various currencies into Ahmedabad Sicca Rupees.			Total amount permanently due from each Talooka in Ahmedabad Sicca Rupees.			REMARKS.
4869	..	...	105928	.	..	5500 Rupees of the Tribute due to the Gaekwar being originally taken, Khurajat babut, the Ant exchange is not calculated thereon, the same being paid in Ahmedabad sicca: on the remainder, which was the amount of the original Tribute, exchange is calculated.
...		...	13928	6	4	
...	...	...	6752	6	5	
...	...	...	182	6	5	
...	...	..	2884	12	9	
4869	...	..	129675	15	11	

TABULAR SUMMARY OF THE NUWANUGGUR TALOOKA.

Prants.	Villages.	Population.	Tribute in Ahmedabad Rupees. British.		Tribute in Ahmedabad Rupees. Gaekwar.		Zortulubee in Ahmedabad Rupees.		Total.		
Hallar Total, as shown in this List	540	207680	47229		77547	15 11	4869		129675	15	11
Katteewar, vide that Prant...	39	9032	7088	8			375		7433	8	0
Grand Total of Nuwanuggur..	579	216712	54317	8	77547	15 11	5244		137109	7	11

A.—Not including waste villages.

Temporary Remissions granted in St. 1897, A. D. 1840-41.

British.			Gaekwar.			
1258	...	..	5259	...	...	
755	...	...	4443	...	...	Originally of the Nuwanuggur Bhayad.
189	..	...	1569	8	...	
498	..	...	2081	...	...	
244	8	...	1021	8	...	Originally Gondul Bhayad.
656	8	...	128061	8	...	Do. Rajkote do.
...	...	...	3684	..	...	Do. Gondul do.
1258	..	...	12258	..	...	Do. Do. do.
440	..	...	1945	...	...	Do. Kotra Sanganee do.
315	...	...	4270	...	..	Do. do. do.
369	..	..	..	..	..	
1355	.	..	..	..	..	
1724	..	..	..	..	..	

No. in Mr Blane's List.	No. of Separate Jurisdictions.	Class.	Names of Talookas.	No. of Towns or Villages in each Talooka.	Estimated Population.	Tribute as per Permanent Settlement.						The same calculated in Ahmedabad Sicca Rupees.					
						British.			Gaekwar.			British.			Gaekwar.		
17	12	2	Rajkot Sirdhar..	55	20000	20503	...	...	...	...	...	20503	...	...	...	...	...
18	13		Goureedur.....	6	1000	1092	...	...	...	..	..	1092	...	...	...	...	...
19	14		Kotharia.....	5	600	1024	...	...	...	..	...	1024	...	...	...	...	...
20	15		Lodhecka.....	11	1600	1390	...	...	...	..	...	1390	..	...	...	...	...
21	16		Pal.....	4	320	1353	...	...	...	..	...	1353	...	...	..	...	...
22	17	3	Gutka.....	6	1800	694	..	...	...	..	...	694	...	..	...	...	...
23	18		Wudalee.....	1	300	266	...	...	...	...	...	266	..	...	...	...	...
24	19		Veerwao.....	1	200	161	...	...	...	..	...	161	...	...	...	.	...
25	20		Shapor.....	4	800	501	...	...	...	...	...	501	...	...	..	...	...
26	21		Kankseealee.....	1	60	91	...	...	...	..	...	91	..	..	...	...	...
27	22		Muwa.....	1	40	130	...	...	...	...	..	130	...	...	...	...	...
28	23	2	Dhurol,.....	A 36	10000	...	...	...	Ant. 5346	...	...	...	...	...	6415	3	2
29			Surupdur,.....	B 20	4000	...	...	...	Ant. 4359	..	...	...	...	...	5230	12	11
30	24	3	Kheerusra.....	14	4000	2554	...	...	...	...	...	2554	...	...	...	...	...
31	25	3	Jalllia Dewanee..	D 10	1300	...	...	...	C Ant. 2700	...	...	...	...	...	3240	...	...
32	26	3	Kotra Nayajee....	1	400	...	...	...	Ant. 551	...	...	...	...	...	661	3	2
			Grand Total, Hallar.....	942	358560	161598	8	...	140496	...	...	161598	8	...	167495	3	2

Zortulubee to the Nuwab of Joonaghur, as consolidated from various currencies into Ahmedabad Sicca Rupees.			Total amount permanently due from each Talooka, into Ahmedabad Sicca Rupees.			Temporary Remissions granted in Sumvut 1897, A.D. 1840-41.						Remarks.
						British.			Gaekwar.			
2515	8	...	23018	8	...	...	...	...	...	...	...	Originally of the Nuwanuggur Bhayad
658	8	...	1750	8	...	...	...	...	...	...	...	
322	...	...	1346	...	...	...	...	...	...	...	...	
437	..	...	1827	...	...	...	...	..	...	...	...	Do. Rajkot do.
425	8	...	1778	8	...	...	...	...	...	...	...	
218	...	...	912	...	...	...	...	...	...	...	...	
84	...	...	350	...	...	...	...	..	...	...	...	Do Kotharia do.
47	8	...	208	8	...	...	...	...	...	...	...	
157	8	...	658	8	...	...	...	...	..	...	...	Do. Rajkot do.
29	...	...	120	..	...	...	...	...	...	...	...	Do. Shapor do.
41	8	...	171	8	...	...	...	...	...	...	...	
733	8	...	12379	8	1	...	...	...	...	...	...	Both under the Dhurol chief, though the Surupdur Purgunna, being under a guaranteed farm, constitutes a temporary separate jurisdiction.
						...	...	...	909	9	7	
377	8	...	2931	8	...	554	...	...	...	...	...	A.—Not including two waste villages, viz. Peepur Tora and Majot. B.—Do. three do. Puchrioo, Galolioo, and Gowalioo, and their land is culivated by Surupdur.
...	..	...	3240	...	...	...	...	...	2340	...	...	C.—The chief holds a purwana from the Gaekwar limiting the tribute to 2000 Rs.. but he has never yet been able to pay even this much. D.—The villages of Golunia and Babra, now under the Jam of Nuggur, and a waste village, viz Sunosra, are not included in the list.
157	...	...	818	3	2	...	...	...	...	...	...	These three Talookas originally of the Dhurol Bhayad.
16685	...	...	345778	11	2	2278	...	...	3249	9	7	

PRANT OR DI

TABLE of TALOOKAS as per Colonel WALKER's Permanent Settlement,

N. B.—No Temporary Remissions exist for this Prant,

No. in Mr. Blane's List.	No. of Separate Jurisdictions.	Class.	Names of Talookas.	No. of Towns or Villages in each Talooka.	Estimated Population.	Tribute as fixed by Colonel Walker.						Permanent Remissions or Corrections.						Authority for Remissions or Corrections.
						British.			Gaekwar.			British.			Gaekwar.			
1	1	1	Joonaghur.....	506	...	30655	...	...	Ant. 45000	...	..	...	...	...	A 8000	...	...	..
			In joint Proprietorship with Jetpor.....	39														
			Total.....	545	284300													
			Koreenar.....	B 65	15520	...	...	..	...	...	...	..	..	...	...	...	...	...
2	2	2	Bantwa...	C 54	20000	32002	...	..	...	..	...	...	...	...	...	...	...	...
3	3	3	Umrapur.....	2	1000	552	..	...	..	...	..	...	...	...	...	...	...	...
			Grand Total, Soruth...	666	320820	63209	.	..	45000	...	..	..	...	...	8000	...	...	...

VISION OF SORUTH.

showing subsequent alterations and present No. of Separate Jurisdictions.

the column for that heading is consequently omitted.

Correct Balance now due by each Tributary.		The same converted from Ant into Ahmedabad Sicca Rupees.		Total amount permanently due from each Talooka into Ahmedabad Sicca Rupees.	Remarks.
British.	Gaekwar.	British.	Gaekwar.		
30655	37000	30655	44400	75055	The cession was effected during the paramount sovereignty of the Gaekwar in this province, and no authority is to be traced in the records of the present Political Agency. A.—This is a Remission to Joonaghur on account of its district of Koreen: ceded to the Gaekwar in Sumvut 1868, A. D. 1811-12, but being made good by the Amrellee muhal, to which it belongs, is only a nominal Remission, and not therefore included in the sum Total of Remissions.
... ...	8000	... .	9600	9600	B.—Not including waste villages, the number of which is disputed, as also the proprietorship of several.
32002	.. ..	32002	... ...	32002	Originally of the Joonaghur Bhayad. C.—Not including one waste village, viz. Doongree.
552	... .	552	... ...	552	
63209	45000	63209	54000	117209	

PRANT OR DIVISION

TABLE of TALOOKAS as per Colonel WALKER's Permanent Settlement, showing

N. B. No Permanent Remissions or Corrections exist for this

No. in Mr. Blane's List.	No. of Separate Jurisdictions.	Class.	Names of Talookas.	No. of Towns or Villages in each Talooka.	Estimated Population.	Tribute as fixed by Colonel Walker.						The same converted from Ant or Soortee into Ahmedabad Sicca Rupees.					
						British.			Gaekwar.			British.			Gaekwar.		
						A Ste.											
1	1	1	Bhaonuggur	753		74500	...	...	.....	...	...	81950	..	...	....	...	...
			Deduct under Ahmedabad.....	223													
			Balance under this Agency	530	207900												
2	2	3	Rutunpur Dhamunka.....	4		.....	..	..	Ant. 762	...	...	.....	...	...	914	6	5
			Deduct under Ahmedabad.....	1													
			Balance under this Agency	3	500				Ant.								
3	3	2	Wula	38		.....	...	...	7132	...	...	.....	...	...	8558	6	5
			Deduct under Ahmedabad.....	6													
			Balance under this Agency	32	7200				Ant.								
4	4	3	Chumardee	2	.....	.....	..	...	777	...	...	.....	..	...	932	6	5
			Deduct under Ahmedabad.....	1													
			Balance under this Agency	1	200				Ant.								
5	5	3	Tora	4	300	.....	...	...	300	...	...	.....	...	..	360	...	...
6	6	3	Katoria	1	100	.....	...	...	A. 196	..	...	.....	..	...	235	3	2
7	7	3	Panchoura	1	100	.....	...	...	A. 207	...	...	.....	...	...	248	6	5
8	8	3	Waoree Wachanee..	3	320	.....	...	...	A. 302	...	...	.....	...	...	362	6	5
9	9	3	Sonpuree	1	160	.....	...	..	A. 511	...	...	.....	...	...	613	3	2
10	10	3	Puchegam	6	.....	.....	...	...	A2157	...	...	.....	...	...	2588	6	5
			Deduct under Ahmedabad.....	3													
			Balance under this Agency	3	1600												

OF GOHELWAR.

subsequent alterations and present Number of Separate Jurisdictions.

Prant, the column for that heading is consequently omitted.

Zortulubee to the Nuwab of Joonaghur, as consolidated from various currencies into Ahmedabad Sicca Rupees.			Total amount Permanently due from each Talooka into Ahmedabad Sicca Rupees.			Temporary Remissions granted in Sumvut 1897, A. D. 1840-41.			REMARKS.
24557	8	...	106507	8	...	....	...	...	
165	...	.	1079	6	5	.....	...	...	
2535	...	...	11093	6	5	.....	...	...	Originally Bhaonuggur Bhayad.
100	...	...	1032	6	5	.....	...	...	
60	..	...	420	..	...	.....	...	..	Do. Waoree Wachanee ditto.
30	...	...	265	3	2	.....	...	...	
40	...	...	288	6	5	.....	...	...	
60	..	...	422	6	5	.....	...	...	
50	...	..	663	3	2	211	3	2	
733	...	...	3321	6	5	.....	..	...	Do. Bhaonuggur ditto.

TABULAR SUMMARY OF THE BHAONUGGUR TALOOKA.

Prants.	Villages.	Population.	Tribute in Ahmedabad Rupees. British.	Tribute in Ahmedabad Rupees. Gaekwar.	Zortulubee in Ahmedabad Rupees.	Total.
Gohelwar Total, as shown in this List	530	207900	81950	... ...	24557 8 ...	106507 8 ...
Oond Surweya Total. Vide that Prant	6	1080	... ...	1513 9 7	... ...	1513 9 7
Ganla in Babriawar	6	1160	... ...	1321 1 7	... ...	1321 1 7
Grand Total of Bhaonuggur	542	210140	81950	2834 11 2	24557 8 ...	109342 8 2

A—This tribute was transferred by the Gaekwar to the British Government in payment of a subsidised force by Article V. of treaty dated 21st April 1805, and is in consequence borne on the agency accounts under the head of subsidy.

PRANT OR DIVISION

TABLE of TALOOKAS as per Colonel WALKER's Permanent Settlement, showing

N. B. No Permanent Remissions or Corrections exist for this

No.	No. of	Class.	Names of Talookas.	No. of Towns or Villages in each Talooka.	Estimated Population.	Tribute as fixed by Colonel Walker.						The same converted from Ant or Soortee into Ahmedabad Sicca Rupees.					
						British.			Gaekwar.			British.			Gaekwar.		
						A Ste.											
1	1	1	Bhaonuggur	753		74500	...	...	.....	...	...	81950	..	...	....	...	...
			Deduct under Ahmedabad.....	223													
			Balance under this Agency	530	207900												
2	2	3	Rutunpur Dhamunka.....	4		.....	..	..	Ant. 762	...	...	.....	...	...	914	6	5
			Deduct under Ahmedabad.....	1													
			Balance under this Agency	3	500				Ant.								
3	3	2	Wula	38		.....	...	...	7132	...	...	.....	...	...	8558	6	5
			Deduct under Ahmedabad.....	6													
			Balance under this Agency	32	7200				Ant.								
4	4	3	Chumardee	2	.....	.....	..	...	777	...	...	.....	..	...	932	6	5
			Deduct under Ahmedabad.....	1													
			Balance under this Agency	1	200				Ant.								
5	5	3	Tora	4	300	.....	...	...	300	...	...	.....	...	..	360	...	...
6	6	3	Katoria	1	100	.....	...	...	A. 196	..	...	.....	..	...	235	3	2
7	7	3	Panchoura	1	100	.....	...	...	A. 207	...	...	.....	...	...	248	6	5
8	8	3	Waoree Wachanee..	3	320	.....	...	...	A. 302	...	...	.....	...	...	362	6	5
9	9	3	Sonpuree	1	160	.....	...	..	A. 511	...	...	.....	...	...	613	3	2
10	10	3	Puchegam	6	.....	.....	...	...	A2157	...	...	.....	...	...	2588	6	5
			Deduct under Ahmedabad.....	3													
			Balance under this Ag...	3	1600												

OF GOHELWAR.

subsequent alterations and present Number of Separate Jurisdictions.

Prant, the column for that heading is consequently omitted.

Zortulubee to the Nuwab of Joonaghur, as consolidated from various currencies into Ahmedabad Sicca Rupees.			Total amount Permanently due from each Talooka into Ahmedabad Sicca Rupees.			Temporary Remissions granted in Sumvut 1897, A. D. 1840-41.			REMARKS.
24557	8	...	106507	8	...	....	...	...	
165	...	.	1079	6	5	.....	...	...	
2535	...	...	11093	6	5	.....	..	...	Originally Bhaonuggur Bhayad.
100	...	...	1032	6	5	.....	...	...	
60	..	...	420	..	...	.....	...	..	Do. Waorce Wachanee ditto.
30	...	...	265	3	2	.....	...	...	
40	...	...	288	6	5	.....	...	...	
60	..	...	422	6	5	.....	...	...	
50	...	..	663	3	2	211	3	2	
733	...	...	3321	6	5	.....	..	...	Do. Bhaonuggur ditto.

TABULAR SUMMARY OF THE BHAONUGGUR TALOOKA.

Prants.	Villages.	Population.	Tribute in Ahmedabad Rupees. British.	Tribute in Ahmedabad Rupees. Gaekwar.	Zortulubee in Ahmedabad Rupees.	Total.
Gohelwar Total, as shown in this List	530	207900	81950	... ...	24557 8 ...	106507 8 ...
Oond Surweya Total. Vide that Prant	6	1080	... ...	1513 9 7	... ...	1513 9 7
Gamla in Babriawar	6	1160	... ...	1321 1 7	... ...	1321 1 7
Grand Total of Bhaonuggur	542	210140	81950	2834 11 2	24557 8 ...	109342 3 2

A—This tribute was transferred by the Gaekwar to the British Government in payment of a subsidised force by Article V. of treaty dated 21st April 1805, and is in consequence borne on the agency accounts under the head of subsidy.

No. in Mr Blane's List.	No. of Separate Jurisdictions.	Class.	Names of Talookas.	No. of Towns or Villages in each Talooka.	Estimated Population.	Tribute as fixed by Colonel Walker.			The same converted from Ant or Soortee into Ahmedabad Sicca Rupees.		
						British.	Gaekwar.		British.	Gaekwar.	
11	11	3	Chitrawao.....	1	200	....	499		....	598 12	10
12	12	3	Ramunka..	1	240	....	583		....	699 9	7
13	13	3	Wurod	1	320	....	955		.. ..	1146 ...	..
14	14	3	Ulumpur...	1	400	....	1254 8 ...		....	1505 6	5
15	15	3	Dhola.....	1	160	....	330		....	396 ...	...
16	16	3	Lathee.....	10	.....	....	a Horse		....	....	...
			Deduct under Ahmedabad.....	4							
			Balance under this Agency.....	6	4000						
17			Rajpeepla.....	1	200	....	525		....	630 ...	..
18			Veerree.....	1	200	....	351		....	421 3	2
			Lathee Total..	8	4400	....	876		....	1051 3	2
19	17		Gudhalee...	1	800	....	1726		....	2071 3	3
20	18		Gudhoola...	1	160	....	171		....	205 3	2
21	19		Dedukree...	1	200	....	280		....	336 ...	...
22	20		Kheejrico..	1	200	....	387		....	464 6	5
23	21		Bochurwa...	1	140	....	253		....	303 9	7
24	22		Bhojawudur...	1	400	....	418		....	501 9	7
25	23		Sumundhiala and Chubaria...	2	720	....	1922		....	2306 6	5
26	24		Leemra...	5	.....	....	949 8 ..		....	1139 6	5
			Deduct under Ahmedabad.. ...	1							
			Balance under this Agency..	4	1200						
27	25		Waoree.....	1	800	....	1038		....	1245 9	7
28	26		Wagdra.....	1	160	....	80		....	96 ...	...
29	27	2	Palee Tana...	A 82	18560	....	8001		....	9601 3	2
30	...	...	These transfers occurred in St. 1868. Kheejrioo the 2d.....	1	240	....	201		....	241 3	2
31	...	...	Patna Maljee.	1	300	....	401		....	481 3	2
			Grand Total Gohelwar...	690	247980	74590	32669		81950	39202 12	9

Zortulubee to the Nuwab of Joonagbur, as consolidated from various currencies into Ahmedabad Sicca Rupees.			Total amount Permanently due from each Talooka into Ahmedabad Sicca Rupees.			Temporary Remissions granted in Sumvut 1897, A. D. 1840-41.			REMARKS.
41	...	...	639	12	10	.....	...	...	
106	4	...	805	13	7	.....	...	...	
175	...	...	1321	...	...	.....	...	..	
175	...	...	1680	6	5	.....	...	...	Originally Puchegam Bhayad.
64	...	...	460	...	...	.....	...	...	
1062	8	...	1062	8	...	.....	...	...	
175	...	...	805	...	...	.....	...	...	Under Lathee from before the Permanent Settlement.
.....	...	...	421	3	2	.....	...	...	
1237	8	...	2288	11	2	.....	...	...	
325	...	...	2396	3	3	.....	...	...	
30	...	...	235	3	2	.....	..	...	
30	...	...	360	...	..	.....	..	...	
51	..	..	515	6	5	.....	..	...	
25	...	...	328	9	7	.....	...	...	
150	...	...	651	9	7	.....	..	...	
420	...	...	2726	6	5	.....	..	...	
300	...	...	1439	6	5	.....	...	...	Originally Lathee Bhayad
222	8	...	1468	1	7	.....	...	...	
27	...	...	123	...	...	.....	..	...	
2685	...	...	12289	3	2	.....	..	...	A.—Not including 9 waste Villages, viz. Kharioo, Chooree, Rampurdoo, Keejrioo, Sonpuree, Leemburdhar, Sarungpoor, Lakapadur, and Khoonsa.
.....	...	...	241	3	2	.....	...	...	Under Amrellee.
.....	...	...	481	3	2	.....	...	...	Do. Jusdhun.
31397	12	...	155550	8	9	211	3	2	

PRANT OR DIVISION

TABLE of TALOOKAS, as taken from the Gaekwar Mujmoodar's list, showing
N. B. No British Tribute is fixed for this Prant, the column for that heading
the tribute of this Prant has yet been made.

No. in Mr. Blane's List.	No. of Separate Jurisdictions.	Class.	Names of Talookas.	No. of Towns or Villages in each Talooka.	Estimated Population.	Gaekwar Tribute.	Permanent Remissions or Corrections.	Correct Balance due by each Tributary.	The same converted from Ant. or Soortee into Ahmedabad Sicca Rupees.
2	1	All of the 3rd class.	Eyawej	1	280	S 226	.....	226	248 9 8
3			Veerpur	1	48	S 51	.....	51	56 1 7
4	2		Sunala	1	240	S 301	.....	301	331 1 7
5	3		Sheroda	1	120	S 121	.....	121	133 1 7
6	4		Rajpoora	1	300	S 176	.....	176	193 9 7
9	5		Pa-a	1	120	S 301	.....	301	331 1 7
10	6		Dedura	1	40	S 101	.....	101	111 1 7
11	7		Jallia Beeja	1	80	S 30	.....	30	33 ...
12	8		Jalioo Umrajeenoo	1	80	S 125	.....	125	137 8 ...
13	9		Chok	1	280	S 301	.....	301	331 1 7
8			Pandria	1	120	S 85	.....	85	93 8 ...
			Total Chok	2	400	386	.....	386	424 9 7
14	10		Kunjhurda	1	25	S 125	.....	125	137 8 ...
15	11		Satanoness	1	100	S 101	.....	101	111 1 8
16	12		Wudal	1	180	S 151	.....	151	166 1 7
17	13		Morehopna	1	60	S 151	.....	151	166 1 7
18	14		Bhundaria	1	300	S 301	.....	301	331 1 7
19	15		Bodanoness	1	140	S 101	.....	101	111 1 7
20	16		Joonapadur	1	80	S 41	.....	41	45 1 7
21	...		Ranpurra	1	200	S 151	.....	151	166 1 7
22	17		Sewreewudur	1	100	S 51	.....	51	56 1 7
23	18		Roheesala	1	100	S 101	.....	101	111 1 7
24	19		Sumundhiala	1	100	S 501	.....	501	551 1 7
25	20		Gundhol	1	60	S 101	.....	101	111 1 7
26			Kootia	1	80	S 125	A 125	.....	....
27			Jesur	1	400	S 600	.....	600	660 ...
28			Jhurukhla	1	80	S 200	.....	200	220 ...
29			Depla	1	320	S 351	.....	351	386 1 7
30			Waoree	1	100	S 251	A 251	.....	....
31			Sutpura	1	100	S 225	.....	225	247 8 ...
			Total now under Bhaonuggur	6	1080	1752	376	1376	1513 9 7
32	21		Katroree	1	200	S 386	.....	386	424 9 7
33	22		Datha	B 20	6400	Aut. 4739	.....	4739	5686 12 10
			Hathsunee	1	200	S 351	.....	351	386 1 7
			Ranceegam	1	280	S 701	.....	701	771 1 7
			Total Datha	22	6880	5791	.....	5791	6844 ...
	23		Wejanones	1	60	S 30	.....	30	33 ...
			Grand Total Oond Surweya	53	11373	11653	376	11277	12878 9 5

)F OOND SURWEYA.

[illegible]bsequent alterations and present No. of Separate Jurisdictions.
[illegible] consequently omitted. With the exception of Datha, no permanent arrangement for

[illegible] from various currencies into Ahmedabad Sicca Rupees.			Total amount permanently due from each Talooka into Ahmedabad Sicca Rupees.			Temporary Remissions granted in Sumvut 1897, A. D. 1840-41.			REMARKS.
[illegible]	8	...	257	1	8	......	...	...	
...	...	...	56	1	7	......	...	...	
[illegible]	8	...	347	9	7	......	...	..	
[illegible]	8	..	145	9	7	.....	...	...	
[illegible]	8	..	206	1	7	.....	..	...	
[illegible]	8	...	343	9	7	331	1	7	
...	..	...	111	1	7	......	...	...	
...	..	...	33	...	...	......	..	...	
[illegible]	8	...	146	...	..	......	...	...	
[illegible]	8	...	347	9	7	......	..	..	
[illegible]	8	..	102	..	..	......	...	...	Under Chok.
[illegible]	...	...	449	9	7	....	..	..	
...	...	...	137	8	..	......	...	...	
[illegible]	..	...	117	1	8	......	..	...	
...	...	...	166	1	7	.....	..	...	
[illegible]	8	...	175	9	7	166	1	7	
[illegible]	8	...	347	9	7	.....	...	...	
[illegible]	8	...	120	9	7	......	...	...	
[illegible]	8	...	53	9	7	......	...	...	
[illegible]	8	...	178	9	7	.....	...	..	Half under Rajpura No. 4, and half under Datha No. 22.
[illegible]	8	...	64	9	7	.....	..	...	
[illegible]	8	..	119	9	7	.....	...	..	
[illegible]	8	...	559	9	7	248	9	7	
[illegible]	8	...	119	9	7	......	...	...	
..	..	...	..	..	...	......	...	...	A.--Gaekwar claim to tribute never having been substantiated, the same is written off as Permanent Remission.
...	...	...	660	..	...	.....	...	...	
...	...	..	220	..	...	......	...	...	
...	...	..	386	1	7	......	...	...	
...	..	...	...	...	...	......	...	...	Under Bhaonuggur.
...	...	..	247	8	...	......	...	...	No authority for the transfer to be traced beyond the acts of the Proprietors who wrote over their Villages to Bhoanuggur in the years S. 1866-67 and 1868, A. D. 1809-10, 1810-11, and 1811-12.
...	..	...	1513	9	7	.....	...	...	
[illegible]	8	...	435	1	7	......	...	...	
[illegible]	..	...	5986	12	10	......	...	...	B.--Not including 3 waste Villages, viz. Koondnee, Padurghur, and Ghana Nahna.
[illegible]	8	...	402	9	7	......	..	...	Under Datha.
...	..	...	771	1	7	......	...	...	
[illegible]	[illegible]	...	7160	8	...	......	...	...	
...	...	...	33	...	...	......	...	...	
[illegible]	8	...	13398	1	5	745	12	9	

PRANT OR DIVISION OF BABRIAWAR.

TABLE of TALOOKAS, as taken from the Gaekwar Mujmoodar's List, shewing subsequent alterations and present number of Separate Jurisdictions.

No. in Mr Blane's List.	No. of Separate Jurisdictions.	Class.	Names of Talookas.	No. of Towns or Villages in each Talooka.	Estimated Population.	Gaekwar Tribute as per Permanent Settlement.			The same converted from Soortee into Ahmedabad Sicca Rupees.			Temporary Remissions granted in Sumvut 1897, A. D. 1840-41.			REMARKS.
				A											
1	1		Dedan	8	3072	2901	...	...	3191	1	7	...	...	..	A.—Not including one village, viz. Wasa.
2			Barputolee	1	560	101	...	...	111	1	7	...	..	...	
			Total Dedan	9	3632	3002	...	..	3302	3	2	...	...	...	
3	2		Koondliala	1	140	126	...	..	138	9	7	..	..	...	
4	3		Peechree	1	120	21	...	...	23	1	7	...	...	...	
5	4		Phachrioo	1	140	101	...	...	111	1	7	...	...	...	
6	5		Bhoondree	1	224	51	..	...	56	1	7	..	...	...	
7	6		Nagsree	3	676	576	..	...	633	9	7	...	..	...	
8	7		Katurdhur	1	360	101	...	...	111	1	7	...	...	...	
16			Bhakodur	1	80	101	...	...	111	1	7	...	...	..	
23			Hemal	1	160	87	8	..	96	4	...	...	...	...	
			Total Katurdhur	3	600	289	8	..	318	7	2	...	...	...	
9	8		Kuntharia Kysa	1	48	75	...	...	82	8	...	22	..	...	
10	9		Kotree	1	800	201	..	...	221	1	7	...	..	...	
11	10	All of the 3rd class.	Kagwudur	1	120	56	...	..	61	9	7	...	...	..	
12	11		Kuntharia Coolee	1	84	75	...	..	82	8	...	...	...	...	
13	12		Teembee	1	600	726	...	...	798	9	8	...	..	...	
	13		Mansa	1	300	175	...	..	192	8	...	...	..	...	
14	14		Jeekadree	1	100	50	..	...	55	..	...	...	...	...	
15	15		Balancewao	2	64	101	..	...	111	1	7	67	1	7	
17	16		Bhutwudur	1	60	101	...	...	111	1	7	61	9	7	
18	17		Bhada	2	344	51	...	..	56	1	7	...	...	...	
19	18		Dhoodhala	1	200	275	...	..	302	8	...	203	8	..	
20	19		Lor	1	180	100	...	...	110	..	...	...	...	...	
21	20		Dholadree	1	100	35	...	...	38	8	...	...	..	..	
22	21		Sakria	1	88	51	...	...	56	1	7	28	9	7	
24	22		Wuroonchya	7	1088	1126	...	..	1238	9	7	...	...	..	
25	23		Dewkawudur	1	160	250	10	8	275	11	9	...	...	...	
	24		Neengala	1	140	125	5	4	137	13	10	...	...	...	
26	25		Hindorna	1	280	75	...	..	82	8	..	...	..	...	
27	26		Hurmuntia	1	160	126	...	...	138	9	7	...	...	..	
28	27		Ootiawudur	1	200	126	...	..	138	9	7	...	...	..	
29	28		Ebhulwur	1	68	51	...	...	56	1	7	...	...	...	
30	29		Kowaya	1	208	101	...	..	111	1	7	..	...	..	
31	30		Ganjawudur	1	48	101	...	...	111	1	7	...	...	..	
32			Khakbaee	1	320	100	...	...	110	...	...	...	..	...	Under Arlee from the Sumvut 18
33			Ghanla	8	1376	1201	..	..	1321	1	7	...	...	...	Do. Bhagur.
	31		Gheshpur	1	120	30	..	...	33	...	...	..	...	..	
	32		Sangana	Was	te	55	...	...	60	8	..	60	8	..	
			Total Babriawar	60	12,788	9706	8	...	10,677	2	1	443	4	9	
				A											
	1	1	Jafrabad	11	5680	...	...	...	...	...	...	...	...	..	A.—Not including one village, viz. Teealoo.
			Grand Total Babriawur, including Jafrabad	71	18,468										

PRANT OR DIVISION OF OKHAMUNDUL.

No.	No. of Separate Jurisdictions.	Class.	Talookas.	No. of Villages in each Talooks.	Estimated Population.	Remarks.
...	1	1	Okamundul.....	A 43	12,590	A.—Not including 11 waste Villages.

ABST

No. in Mr Blane's List.	No. of Separate Jurisdictions. Paying Tribute.	Not Paying ditto.	Total.	Class of these Jurisdictions. 1	2	3	Prants.	No. of Towns or Villages in each Prant.	Estimated Population.	Tribute fixed, or supposed to have been fixed, by Colonel Walker. British.		Gaekwar.		Permanent Remissions or Corrections. British.		Gaekwar.	
53	51	2	53	..	6	47	Jhalawar.....	496	240325	283253	...	...	...	12913	...	...	...
104	47	8	55	1	1	53	Katteeawar.....	610	189840	88363	8	22606	...	427	...	3714	...
2	2	...	2	..	1	1	Muchoo Kanta.	120	28749	...	...	51202	...	...	...	...	...
32	26	...	26	1	4	21	Hallar.....	942	358560	161598	8	140496	...	...	...	...	...
3	3	...	3	1	1	1	Soruth.....	666	320820	63209	...	45000	...	...	...	...	...
1	1	...	1	..	1	...	Burda.....	103	46980	22890	8	7312	8	...	...	...	...
31	27	...	27	1	2	24	Gohelwar... ...	690	247980	74500	...	32669	...	...	...	...	...
33	23	...	23	..	....	23	Oond Surweya..	53	11373	...	...	11653	...	...	...	376	...
33	32	1	33	1	...	32	Babriawar, including Jafrabal...	71	18468	...	...	9706	8	...	...	...	...
...	...	1	1	1	...	...	Okhamundul.....	43	12590	...	...	...	...	...	...	...	...
2..	21:	12	224	6	16	202	Grand Total....	3794	1475685	693814	8	320645	...	13340	...	4090	...

ABSTRACT showing Population, &c., of the different Classes.

6				937	789482
	—			104	427277
		202		809	258920

RACT.

Correct Balance now due by each Prant.			The same converted from Ant or Soortee into Ahmedabad Sicca Rupees.			Zortu'abee to the Nuwab of Joonaghur, as consoliated from various currencies into Ahmedabad Sicca Rupees.		British Share of Poorbunder Customs.	Total amount Permanently due from each Prant, into Ahmedabad Sicca Rupees.			Temporary Remissions granted in Sumvut 1897, A. D. 1840-41.	
British.	Gaekwar.		British.		Gaekwar.							British.	Gaekwar.
270340 ...	... ...		270340		... ...	17250	8	...	287590	8	...	14750	... .
87936 8	18892 ...		88671	13 4	21650	2	10	18296	... ...	128618	...	2	... 1201 3 2
... ...	51202 ...		...	... ...	61442	6	4	200	... ...	61642	6	4	... 16500 ... ..
161598 8	140496 ...		161598	8 ...	167495	3	2	16685	... ...	345778	11	2	2278 3249 9 7
63209 ...	45000 ...		63209	... ...	54000	...	...	...	... ...	117209	...	...	... ...
22890 8	7312 8		22890	8 ...	8775	...	...	5513	... 26001	63179	8	...	... ...
74500 ...	32669 ...		81950	... ...	39202	12	9	34397	12 ...	155550	8	9	... 211 3 2
... ...	11277 ...		...	... ...	12878	9	5	519	8 ...	13398	1	5	... 745 12 8
													443 4 9
...	9706 8		...	... ...	10677	2	1	...	... ...	10677	2	1	... ...
... ...	... ...		...	... ...	...	...	...	...	... ...	...	...	...	... ...
580474 8	316555 ...		688659	13 4	376121	4	7	92861	12 26001	1183643	13	11	17028 22351 1 5

(Signed) G. Leg. Jacob,

Acting Political Agent.

(Enclosure No. III.)

List of the different Tribes of Babrias, commonly called Babria Kattees.

No.	Titles.	No.	Titles.	No.	Titles.
1	Koteela...	25	Beparia...	49	Chondia.
2	Dhankhra...	26	Kheradot...	50	Khara.
3	Wuroo...	27	Burela...	51	Khulala.
4	Ghurga...	28	Pooshutia.	52	Khada.
5	Ghoosamba...	29	Pudeeara...	53	Bholuvla.
6	Chanya...	30	Changur...	54	Weda Bhoopal.
7	Boreecha...	31	Chak...	55	Shanya.
8	Chhubhar	32	Rakhur...	56	Nerala.
9	Chatroja...	33	Rathor...	57	Lujora.
10	Kareta...	34	Naeesa...	58	Shoba.
11	Murmul...	35	Sheemug...	59	Kagra.
12	Wura...	36	Dabhia...	60	Mutara.
13	Wusra...	37	Dugav...	61	Sheehala.
14	Luya...	38	Lobhia...	62	Kesoor.
15	Lobud...	39	Khata...	63	Dedugra.
16	Kurena...	40	Khasur...	64	Shubar.
17	Khandmul...	41	Khodiala...	65	Athur.
18	Shankhlia...	42	Kandhal...	66	Veea.
19	Sachla...	43	Nepal...	67	Keea.
20	Bhoowa...	44	Keelkan...	68	Khaghurda.
21	Bharmul...	45	Kateeal...	69	Nuvga.
22	Bhalera...	46	Wagla...	70	Ladha.
23	Dhurmueta...	47	Werma...	71	Dhandha.
24	Loonwura...	48	Dangur...	72	Oomga.

(Signed) G. Leg. Jacob,

Acting Political Agent.

(Enclosure No. IV.)

MEMORANDUM of Tribes of the Shakhaeet Kattees.

No.		No.	TRIBES.	No.		No.	TRIBES.
		1	Wala... ...			1	Khachur.
		2	Derooa... ...			2	Dand.
		3	Waikha... ...			3	Jhobalia.
		4	Laloo... ...	2	Khachur....	4	Heepa.
		5	Kurpura... ...			5	Chaomdia.
		6	Wurdur... ...			6	Lomasuria.
		7	Veekma... ...			7	Khara.
		8	Kagra... ...				
		9	Bhojuk... ...			1	Khooman.
		10	Chak... ...			2	Chandoo.
		11	Wujsee... ...			3	Chandsoor.
1	Wala...	12	Gowalia... ...			4	Manganee.
		13	Rajduria... ...			5	Mun.
		14	Geega... ...	3	Khooman...	6	Motia.
		15	Wujmul... ...			7	Jhummur.
		16	Far... ...			8	Jogia.
		17	Jogia... ...			9	Loonsur.
		18	Boghura... ...			10	Wulund.
		19	Kustooria... ...				
		20	Koodur... ...				

MEMORANDUM of Tribes of the Ehwurutia Kattees.

No.	TRIBES.	No.	TRIBES.	No.	TRIBES.
1	Dhadhul...	32	Nurer...	63	Wurnia.
2	Bushia...	33	Nala...	64	Laloo.
3	Banbhance...	34	Gureeba...	65	Chawra.
4	Gunghanee...	35	Beechuria...	66	Dangur.
5	Jhanjuria...	36	Mukwana...	67	Kaleea.
6	Shodhia...	37	Mora...	68	Shekhun.
7	Leenkhra...	38	Unbhung...	69	Barud.
8	Loda...	39	Khada...	70	Unchh.
9	Palun...	40	Mueetra...	71	Kotheewal.
10	Kuteea...	41	Jhulloo...	72	Bara.
11	Chom...	42	Kusor...	73	Jojuria.
12	Koya...	43	Shekhwa...	74	Bhul.
13	Natania...	44	Ronwa...	75	Dawera.
14	Jheelria...	45	Haleeka...	76	Kurwuth.
15	Media...	46	Dhodhia...	77	Besh.
16	Tooria...	47	Bhambhla...	78	Jogla.
17	Khoondhla...	48	Kharuk...	79	Malania.
18	Gogla...	49	Moya...	80	Mokha.
19	Refuria...	50	Shekhur...	81	Cheea.
20	Chahuria...	51	Dhing...	82	Jumjal.
21	Boreecha...	52	Khuwur...	83	Mueera.
22	Rutun...	53	Wegur...	84	Tragmuria.
23	Manjhria...	54	Putgur...	85	Mot.
24	Tochuria...	55	Khem...	86	Mun.
25	Veerumka...	56	Dasotia...	87	Khakhlia.
26	Wank...	57	Dewalia...	88	Lookhel.
27	Mala...	58	Teetoocha...	89	Mepal.
28	Weenchia...	59	Veerda...	90	Gulchur.
29	Jeblia...	60	Khakhuria...	91	Kateeal.
30	Geera...	61	Daoo...	92	Wuchhra.
31	Padwa...	62	Sarowla...	93	Seendhuo.

(Signed) G. LEG. JACOB,

Acting Political Agent.

(Enclosure No. V.)

TABLE showing the number of Nagur Brahmin Families in the Peninsula of Katteeawar, and the places they reside in.

Rajkote, 4th October, 1842.

TOWNS.	No. of Families Nagur Brahmins.		Total.
	Nagurs following Secular pursuits.	Brahmins not Secular.	
Joonaghur...	300	150	450
Nuwanuggur...	125	75	200
Bhaonuggur...	100	35	135
Mangrol...	90	60	150
Khumbalia and Dwarka...	50	1	51
Puttun and Verawul.....	60	2	62
Poorbunder...	40	15	55
Oona and Dilwara...	30	5	35
Morvee...	25	...	25
Wusawur...	25	...	25
Surdhar...	12	...	12
Mowa...	11	...	11
Dhurol...	8	...	8
Amrun...	8	...	8
Amrellee...	4	...	4
Limree...	4	...	4
Wankaneer...	4	...	4
Hulwud...	4	...	4
Hindorna Jamka...	4	...	4
Kalawar...	4	...	4
Rajkote...	3	...	3
Jetpoor...	3	...	3
Jooria...	3	...	3
Wudwan...	3	...	3
	920	343	1263

(Signed) G. LEG. JACOB.
Acting Political Agent.

(*Enclosure No. VI.*)

LIST of Sebundees in the Peninsula of Katteawar.

No.	Names of Talookas.	Foot Sepoys.	Horsemen.
1	Joonaghur....	2000	1000
2	Nuwanuggur....	1500	400
3	Bhaonuggur....	2000	700
4	Poorbunder....	400	100
5	Limree....	300	100
6	Wudwan....	300	125
7	Gondul Dhorajee....	400	150
8	Rajcote Surdhar....	50	25
9	Dhurol Surupdur....	50	50
10	Morvee....	200	75
11	Hulwud Drangdra....	100	50
12	Saela....	30	40
13	Wankaneer....	25	30
14	Amrellee....	400	220
15	Okhamundul....	400	30
16	Jetpoor....	100	50
17	Lathee....	25	40
18	Wula....	40	30
19	Choora....	25	10
20	Palee Tana....	150	50
21	Than Luktur....	25	15
22	Jusdhun....	100	60
23	Bantwa....	75	50
	Remaining small States of the Country....	3000	900
	Total....	11695	4300

(Signed) G. LEG. JACOB,

Acting Political Agent.

(Enclosure No. VII.)

List of Bunders in the Peninsula, in their order of position, commencing from the head of the Kutch Gulf and terminating with that of Cambay.

Under.	Names of Ports.	Discription.
The Thakor... ... of Morvee... ...	Wowaniah...	Good.
The Jam... ... of Nuwanuggur... ...	Jooria...	Good. Extensive trade.
	Hurreeana...	Closed.
	Balacherry...	For fishing craft.
	Kheree...	Ditto.
	Nuwabunder...	Small craft.
	Nagna...	Closed.
	Rojeebara...	Ditto.
	Beree, or the port of Nuwa Nuggur...	Considerable traffic.
	Surmut...	Small craft.
	Sulaya...	Considerable traffic.
	Pindaro...	Fishing craft.
In Okhamundul... ...	Rajpurroo...	Ditto.
	Posheetroo...	Small craft.
	Aramroo...	Ditto.
	Bet...	Pretty good.
	Kutchgur under the Rao... ...	Boats touch.
	Roopun bunder. The Port of Dwarka...	Not much traffic.
	Mudee...	Boats only.
The Jam...	Bhogat...	Ditto.
The Rana of Poorbunder... ...	Mecanee...	But little traffic.
	Poor or Poorbunder...	Good. Extensive trade.
	Nuvee or Nuvee Bundur... ...	Considerable traffic.
	Madoopoor...	Mere boats.
The Nuwab...	Seel...	Closed.
The Shekh of...	Mangrol...	A bad Port, but extensive traffic.
	Chorwar...	Boats only.
The Nuwab of Joonaghur... ...	Billawul or Verawul...	Good, and extensive traffic.
	Heerakot...	Small craft.
	Sootrapara...	Ditto.
	Dhamlej...	Ditto.
Amrellee... ...	Mool Dwarka, the bunder of Korcenar...	Bad ground, small traffic.
	Welun or Welun bundur... ...	Petty trade.
	Wunagbaroo...	Boats.
Portugal... ...	Gogla...	Good, but little trade.
	Diu or Deco...	

UNDER.	NAMES OF PORTS.	DISCRIPTION.
The Nuwab...	Nuwabundur...	Good, but little traffic.
The Zunjeera Seedee...	Jaffrabad...	Good. Extensive trade.
Babria Aheer } Grassia of Babriawar.. {	Bherae...	Insignificant.
	Rampurra...	
	Kuthee Wuddur...	
Jaffrabad...	Sheealbet...	
The Thakor of Bhaonuggur... ... {	Chanch.....	Petty traffic.
	Dewallia...	Closed.
The Thakor of Bhaonuggur... ... {	Mowa...	Considerable traffic.
	Kutpur...	Insignificant.
	Kulsar...	Closed.
	Kotra...	
	Ghudoola...	
	Sultanpoor, the port of Tullaja...	
	Nhana Gopnath...	Closed.
	Meethee Veeree...	
	Koora...	
The Hon'ble Company...	Gogo...	Good. Extensive trade.
Do...	Ewanioo...	Closed.
The Thakor of Bhaonuggur...	Ukwaroo...	
Do...	Bhaonuggur...	Good. Extensive trade.
With reserved rights to the Hon'ble Company.		
The Thakor of Bhaonuggur...	Udelae...	Insignificant.
Do. Do...	Goondaloo...	
Dewanee Grasia, the Puchegam Bhayad... {	Kaloo Talao.....	
The Hon'ble Company... ... ... {	Bawulialee...	Insignificant.
	Dholera...	Considerable traffic.

(Signed) G. LEG. JACOB,

Acting Political Agent.

(Enclosure No. VIII.)

Estimate of the produce of Cotton in the undermentioned Talookas under the Katteewar Political Agency.

No.	Talookas.	Local Maund at various rates.			The same converted into the Goojrattee Mun, viz 40 Rs. 1 Seer, 40 Seers 1 Mun.			Remarks.			
	Province of Jhalawar.										
1	Hulwud Drangdra.	20000	...	...	19000	...	...	38	Rs. to sr.,&	40	srs. to Mun.
2	Limree..... ...	20000	...	...	24500	...	...	28	do.	70	do.
3	Kuntharia... ...	3200	...	...	3360	...	...	28	do.	60	do.
4	Karol..... ...	1640	...	...	2009	...	...	28	do.	70	do.
5	Kumalpur... ...	100	...	...	100	...	...	40	do.	40	do.
6	Kumblao... ...	2000	...	...	2450	...	...	28	do.	70	do.
7	Geree...	2800	...	...	3430	...	...	28	do.	70	do.
8	Chuchana... ...	132	47	...	162	20	36	28	do.	70	do.
9	Chulala... ...	880	...	...	1078	...	...	28	do.	70	do.
10	Jakhun..... ...	875	...	...	918	30	...	28	do.	60	do.
11	Khandia... ...	1400	...	...	1715	...	...	28	do.	70	do.
12	Tulsana... ...	2400	...	...	2940	...	...	28	do.	70	do.
13	Tavee... ...	1320	...	...	1617	...	...	28	do.	70	do.
14	Dewlia... ...	2200	...	...	2695	...	...	28	do.	70	do.
15	Durod... ...	880	...	...	1078	...	...	28	do.	70	do.
16	Pulalee... ...	400	...	...	490	...	...	28	do.	70	do.
17	Bhooka... ...	2000	...	...	2450	...	...	28	do.	70	do.
18	Bhuthan... ...	1280	...	...	1568	...	...	28	do.	70	do.
19	Bhulgamra... ...	3200	...	...	3920	...	...	28	do.	70	do.
20	Bhudwana... ...	2250	...	...	2362	20	...	28	do.	60	do.
21	Laliad... ...	1650	...	...	1732	20	...	28	do.	60	do.
22	Wunala... ...	1000	...	...	1000	...	...	40	do.	40	do.
23	Sumla... ...	2050	...	...	2450	...	...	28	do.	70	do.
24	Saooka... ...	1600	...	...	1960	...	...	28	do.	70	do.
25	Oontree... ...	1600	...	...	1960	...	...	28	do.	70	do.
26	Ankewalia... ...	2800	...	...	3430	...	...	28	do.	70	do.
27	Wudwan... ...	25000	...	...	28000	...	...	28	do.	64	do.
28	Jhampodur... ...	375	...	...	420	...	...			do.	
29	Keralee... ...	750	...	...	840	...	...			do.	
30	Goondheealee... ...	1500	...	...	1575	...	...	28	do.	60	do.
31	Jhummer... ...	455	59	19	510	25	31	28	do.	64	do.
32	Doodhrej... ...	3500	...	...	3675	...	...	28	do.	60	do.
33	Bhalora... ...	750	...	...	787	20	...	28	do.	60	do.
34	Rajpura... ...	1250	...	...	1400	...	...	28	do.	64	do.
35	Wurod... ...	2004	42	27	2137	36	9	28	do.	62½	do.
36	Wuna... ...	2391	6	...	2678	1	...	28	do.	64	do.
37	Wankaneer... ...	1610	...	9	1221	7	20	26	do.	45	do.
38	Than Luktur... ...	5500	...	...	5775	...	...	28	do.	60	do.
39	Kessria... ...	148	40	...	156	4	...	28	do.	60	do.
40	Moolee... ...	15000	...	...	15750	...	...			do.	
41	Moonjpur... ...	350	...	...	367	20	...			do.	
42	Sacla...	2000	...	...	2100	...	...			do.	
43	Choora... ...	11500	...	...	12075	...	...			do.	
44	Kurmur... ...	1200	...	...	1260	...	...			do.	
45	Dussara... ...	13246	14	...	13246	14	...	40	do.	40	do.
46	Bujana... ...	5031	9	37	4751	7	19	38	do.	40	do.
47	Patree... ...	15000	...	...	15000	...	...	40	do.	40	do.
48	Jhinjoowara... ...	20000	...	...	20000	...	...	40	do.	40	do.
49	Wunod... ...	450	...	...	450	...	...	40	do.	40	do.
50	Tunkara... ...	2520	...	...	1701	...	...	24	do.	45	do.
51	Bharejra... ...	150	...	...	157	20	...	28	do.	60	do.
52	Race...	500	...	...	560	...	...	28	do.	64	do.
53	Sanklee... ...	500	...	...	560	...	...	28	do.	64	do.
	Jhalawar Total	...	...	...	227531	6	35				

No.	Talookas.	Local Maund at various rates.			The same converted into the Goojrattee Maund.			Remarks.			
	Province of Katteewar.										
1	Amrellee... ...	55000	...	...	55000	...	...	40 Rs.	to sr., &	40 srs.	to Mun.
2	Jetpoor Cheetul...	15000	...	...	11250	...	...	30	do.	40	do.
3	Beelkha... ...	2500	...	...	1875	...	...	30	do.	40	do.
4	Buggusra... ...	1333	13	9	966	26	26	29	do.	40	do.
5	Babra... ...	1500	...	...	1012	20	...	27	do.	40	do.
6	Kotra Peethana...	351	...	...	245	28	...	28	do.	40	do.
7	Kanpor Eshwuria.	250	...	...	168	30	...	27	do.	40	do.
8	Kuner... ...	5	...	...	3	15	...	27	do.	40	do.
9	Kathrola... ...	5	...	...	3	15	...			do.	
10	Kheejria... ...	75	...	...	50	25	...			do.	
11	Gurumlee Mhotee.	100	...	...	67	20	...			do.	
12	Gurumlee Nhanee.	50	...	...	33	30	...			do.	
13	Gudheea...	50	...	...	33	30	...			do.	
14	Churka... ...	531	26	17	385	18	11	29	do.	40	do.
15	Jamka... ...	232	36	12	157	8	24	27	do.	40	do.
16	Dholurwa... ...	100	...	...	67	20	...			do.	
17	Bhulgam... ...	125	...	...	84	15	...			do.	
18	Manawao... ...	50	...	...	33	30	...			do.	
19	Loharia... ...	5	...	...	3	15	...			do.	
20	Lakhapadur... ...	100	...	...	67	20	...			do.	
21	Wagnia... ...	375	...	...	253	5	...			do.	
22	Waghasree... ...	75	...	...	50	25	...			do.	
23	Seelana... ...	250	...	...	168	30	...			do.	
24	Halria... ...	462	20	...	312	7	20			do.	
25	Jusdhun... ...	18983	26	17	13288	22	25	28	do.	40	do.
26	Kotee... ...	150	...	...	105	...	...			do.	
27	Koondnee... ...	150	...	...	105	...	...			do.	
28	Kessria... ...	.....	...	...	...	...	...				
29	Jussapur... ...	250	...	...	175	...	...			do.	
30	Modhooka... ...	250	...	...	175	...	...			do.	
31	Wurja Teeruth....	100	...	...	70	...	...			do.	
32	Seetoolioo... ...	50	...	...	35	...	...			do.	
33	Hurmutioo... ...	50	...	...	35	...	...			do.	
34	Aneealee... ...	100	...	...	70	...	...			do.	
35	Bhudlee... ...	435	...	...	330	13	5	27	do.	45	do.
36	Kurreeana... ...	247	11	6	187	30	4			do.	
37	Annundpoor... ...	50	...	...	35	...	...	28	do.	40	do.
38	Choteela.... ...	100	...	...	113	30	...	28	do.	65	do.
39	Khumbala... ...	33	44	6	25	32	9	27	do.	45	do.
40	Paliad... ...	300	...	...	341	10	...	28	do.	65	do.
41	Bheemora... ...	212	7	1	241	10	37			do.	
42	Bamunbor... ...	5	...	...	5	27	20			do.	
43	Mewassa... ...	98	28	12	111	38	36			do.	
44	Matia Timba... ...	50	...	...	35	...	...	28	do.	40	do.
45	Sunosra... ...	3	8	3	3	22	7	28	do.	65	do.
46	Eetria Gudhala. ...	109	22	13	83	6	2	27	do.	45	do.
47	Jhobaree... ...	5	...	...	5	27	20	28	do.	65	do.
48	Kalasur... ...	10	...	...	11	15	...			do.	
49	Neelwra... ...	25	...	...	18	39	15	27	do.	45	do.
50	Atkot... ...	500	...	...	300	...	...	24	do.	40	do.
51	Bhadla... ...	1000	...	...	600	...	...			do.	
52	Santhlee... ...	900	...	...	540	...	...			do.	
53	Burwala... ...	800	...	...	480	...	..			do.	
54	Summundhiala. ...	200	...	...	120	...	...			do.	
55	Panchuwra... ...	200	...	...	120	...	..			do.	

No.	Talookas.	Local Maund at various rates.			The same converted into the Goojraitee Maund.			Remarks.			
	Province of Katteewar.										
56	Ujmer... ...	600	...	...	360	...	...	24	Rs. to sr., & 40 srs. to Mun.		
57	Dhandulpoor... ...	464	23	21	528	8	25	28	do.	65	do.
58	Soodamra... ...	400	...	...	455	...	...			do.	
59	Sejukpoor & Morwar... ...	200	...	...	227	20	...			do.	
60	Rampurda... ...	25	...	...	16	35	...	27	do.	40	do.
61	Wussawur... ...	200	...	...	145	...	...	29	do.	40	do.
62	Dhussa... ...	1024	15	...	742	26	35			do.	
63	Geegasaran... ...	201	22	13	136	2	7	27	do.	do	do.
64	Ankria... ...	25	...	...	18	39	15	27	do.	45	do.
65	Kerala... ...	50	...	...	56	...	...	28	do.	64	do.
	Katteewar Total...	.....	...	...	92750	11	23				
	Province of Muchoo Kanta.										
1	Morvee... ...	10285	...	...	6171	...	...	24	do.	40	do.
2	Mallia... ...	217	39	10	228	21	22	28	do.	60	do.
	Muchoo Kanta Total...	10502	39	10	6399	21	22				
	Province of Hallar.										
1	Nuwanuggur... ...	45000	...	...	35100	...	...	24	do.	52	do.
2	Joreea Balumba...	2000	...	...	1200	...	...	24	do.	40	do.
3	Hurreeana... ...	1250	...	...	750	...	...			do.	
4	Bharookia... ...	600	...	...	360	...	...			do.	
5	Amrun... ...	600	...	...	360	...	...			do.	
6	Drapha... ...	2891	19	10	2024	1	22	28	do.	40	do.
7	Veerpur... ...	500	...	...	337	20	...	27	do.	40	do.
8	Khuredee... ...	500	...	...	337	20	...			do.	
9	Mooleeraderee.. ...	200	...	...	135	...	...			do.	
10	Satodur Waoree..	620	...	...	542	20	...	28	do.	50	do.
11	Seesang Chandlee	200	...	...	120	...	...	24	do.	40	do.
12	Gondul Dhorajee..	25353	23	...	21392	1	...	30	do.	45	do.
13	Mengnee... ...	737	12	13	497	27	17	27	do.	40	do.
14	Kotra Sanganee...	560	16	24	378	11	16			do.	
15	Bhadwa... ...	100	...	...	67	20	...			do.	
16	Rajpura... ...	97	24	12	65	35	20			do.	
17	Rajcote Surdhar...	1400	...	...	945	...	...	24	do.	45	do.
18	Gowreedur... ...	200	...	...	130	...	...	26	do.	40	do.
19	Kotharia... ...	100	...	...	65	...	..			do.	
20	Zodheeka... ...	150	...	...	97	20	..			do.	
21	Pal... ...	50	...	...	32	20	..			do.	
22	Gutka... ...	50	...	...	32	20	..			do.	
23	Wudalee... ...	30	...	...	25	12	20	27	do.	50	do.
24	Veerwa... ...	10	...	...	6	20	..	26	do.	40	do.
25	Shapoor... ...	500	...	...	437	20	...	28	do.	50	do.
26	Kangseealee... ...	20	...	...	16	35	...	27	do.	50	do.
27	Muwa... ...	10	...	...	8	17	20	27	do.	50	do.
28	Dhurol... ...	75	...	...	61	35	...	22	do.	60	do.
29	Surupdur... ...	123	8	18	74	21	10	24	do.	40	do.
30	Kheerusra... ...	200	...	...	150	...	...	24	do.	50	do.

No.	Talookas.	Local Maund at various rates.			The same converted into the Goojrattee Maund.			Remarks.			
	Province of Hallar.										
31	Jallia Dewanee...	400	...	...	337	0	...	27 Rs. to sr., & 50 srs. to Mun.			
32	Kotra Nayajee. ...	50	...	...	32	0	...	26	do.	40	do.
	Hallar Total... ...	.....	...	...	65121	18	5				
	Province of Soruth.										
1	Joonaghur including Mangrol. ...	57200	...	...	44616	...	...	24	do.	52	do.
2	Bantwa... ...	11512	37	1	10361	22	...	32	do.	45	do.
3	Umrapur... ...	1500	...	...	1170	...	...	24	do.	52	do.
	Soruth Total.....	.....	...	...	56147	22	...				
	Province of Burda.										
1	Poorbunder... ...	60000	...	...	5850	...	...	30	do.	52	do.
	Province of Gohelwar.										
1	Bhaonuggur... ...	6000	...	...	60000	...	...	40	do.	40	do.
2	Rutumpur Dhamunka... ...	458	22	...	425	18	4	27	do.	55	do.
3	Wula... ...	4000	...	...	3712	20	...			do	
4	Chumardee... ...	200	...	...	185	25	...			do	
5	Jora... ...	120	...	...	111	15	...			do	
6	Katoria... ...	80	...	...	74	10	...			do	
7	Panchowra... ...	40	...	...	37	5	...			do	
8	Waoree Wachanee... ...	80	...	...	74	10	...			do	
9	Sompuree... ...	40	...	...	37	5	...			do	
10	Puchegam... ...	400	...	...	371	10	...			do	
11	Cheetrawao... ...	255	47	24	237	19	8			do	
12	Ramunka... ...	1046	54	24	971	29	32			do	
13	Wurod Dewanee..	624	...	...	579	6	...			do	
14	Alumpoor... ...	60	...	...	55	27	20			do	
15	Dhola... ...	80	...	...	74	10	...			do	
16	Lathee... ...	2000	...	...	1856	10	...			do	
17	Rajpeeplee... ...	80	...	...	74	10	...			do	
18	Veerree... ...	40	...	...	37	5	...			do	
19	Ghudalee... ...	728	24	24	676	3	32			do	
20	Gadhoola... ...	160	...	...	148	20	...			do	
21	Dedukree... ...	120	...	...	111	15	...			do	
22	Kheejrioo... ...	80	...	...	74	10	...			do	
23	Bochowra... ...	60	...	...	55	27	20			do	
24	Bhojawadur.... ...	120	...	...	111	15	...			do	
25	Summundhiala.. ...	1453	2	21	1348	24	20			do	
26	Leemra... ...	300	...	...	278	17	20			do	
27	Waoree... ...	160	...	...	148	20	...			do	
28	Wagdra... ...	60	...	...	55	27	20			do	
29	Palee Tana... ...	8000	...	...	7425	...	...			do	

No.	Talookas.	Local Maund at various rates.			The same converted into the Goojrattee Maund.			Remarks.
	Province of Gohelwar.							
30	Kheejria... ...	80	...	...	74	10	...	27 Rs. to sr., & 55 srs. to Mun.
31	Patna Maljee... ...	200	...	...	185	25	...	do
	Gohelwar Total....	.....	...	...	79603	11	16	
	Province of Oond Surweya.							
1	Hathsanee... ...	50	...	...	42	20	...	34 Rs. to sr., & 40 srs. to Mun.
2	Eawej... ...	...	...	...	...	...	...	do
3	Veerpur... ...	...	...	...	...	...	...	do
4	Sunala... ...	10	...	...	8	20	...	do
5	Seroda... ...	10	...	...	8	20	...	do
6	Rajpur... ...	10	...	...	8	20	...	do
7	Raneegam... ...	25	...	...	21	10	...	do
8	Pandria... ...	...	...	...	...	...	...	do
9	Pa-a... ...	...	...	...	...	...	...	do
10	Dedurda... ...	...	...	...	...	...	...	do
11	Jallia Bajoo... ...	...	...	...	...	...	...	do
12	Jallia... ...	...	...	...	...	...	...	do
13	Chok... ...	50	...	...	42	20	...	do
14	Kunghurda... ...	...	...	...	...	...	...	do
15	Satanoness... ...	...	...	...	...	...	...	do
16	Vudal... ...	10	...	...	8	20	...	do
17	Morchopna... ...	...	...	...	...	...	...	do
18	Bhundaria... ...	10	...	...	8	20	...	do
19	Bodanoness... ...	...	...	...	...	...	...	do
20	Joonapadur... ...	...	...	...	...	...	...	do
21	Ranpurda... ...	10	...	...	8	20	...	do
22	Sewreewadur... ...	...	...	...	...	...	...	do
23	Roheesala... ...	50	...	...	42	20	...	do
24	Sumundhiala... ...	25	...	...	21	10	...	do
25	Gundhol... ...	...	...	...	...	...	...	do
26	Kootia... ...	...	...	...	...	...	...	do
27	Jessur... ...	15	...	...	12	30	...	do
28	Jookla... ...	...	...	...	...	...	...	do
29	Depla... ...	...	...	...	...	...	...	do
30	Waoree... ...	15	...	...	12	30	...	do
31	Satwra... ...	15	...	...	12	30	...	do
32	Kantroree... ...	25	...	...	21	10	...	do
33	Datha... ...	500	...	...	425	...	...	do
34	Wejanoness... ...	...	...	...	...	...	...	
	Oond Surweya Total..... ...	.....	...	...	705	20	...	
	Province of Babriawar.							
	Sundry Villages....	...	...	...	100	...	...	

ABSTRACT.

No.	Provinces.	Goojrattee Maund viz. 40 Rs. 1 Seer. 40 Srs. 1 Mun.		
1	Jhalawar	227531	6	35
2	Katteewar	92750	11	23
3	Muchoo Kanta	6399	21	22
4	Hallar	66121	18	5
5	Soruth	56147	22	...
6	Burda	5850	...	...
7	Gohelwar	79608	11	16
8	Oond Surweya	705	20	...
9	Babriawar	100	...	...
	Grand total Goojrattee Maunds....	535213	31	21
	Grand total in Indian maunds of 80 Rs. to the seer, and 40 seers to the maund	267606	35	61

(Signed) G. LeG. Jacob,

Acting Political Agent.

(Enclosure No. IX.)

STATEMENT showing the different rates of Bajree in the undermentioned years, taken from Sahookars' books of the periods referred to, during the Months of February to April of each year.

Number.	Sumvut.	A. D.	Price of Bajree calculated in Ahmedabad Sicca Rs. per Goozrattee Mun—40 Rs. 1 Seer—40 Seers 1 Mun.								
			Morvee.			Saela.			Leemree.		
1	1850	1793-94	—	9	8	1	2	—	—	12	9
2	1851	1794-95	—	15	7	—	13	6	—	10	8
3	1852	1795-96	—	9	—	—	9	—	—	10	4
4	1853	1796-97	—	5	6	—	4	—	—	6	8
5	1854	1797-98	—	7	5	—	3	6	—	6	4
6	1855	1798-99	1	—	6	—	7	6	—	10	1
7	1856	1799-1800	—	13	4	—	10	—	—	9	7
8	1857	1800-1	—	15	11	—	9	—	—	12	9
9	1858	1801-2	—	11	3	—	13	—	—	12	9
10	1859	1802-3	1	—	8	—	14	—	—	8	6
11	1860	1803-4	1	6	3	1	15	—	—	14	11
12	1861	1804-5	1	—	8	—	14	—	—	13	3
13	1862	1805-6	—	14	2	—	10	6	—	9	7
14	1863	1806-7	—	15	3	1	—	—	—	11	2
15	1864	1807-8	—	12	10	—	8	—	—	10	8
16	1865	1808-9	1	4	2	1	—	—	1	—	—
17	1866	1809-10	1	—	8	—	11	6	—	10	1
18	1867	1810-11	—	15	3	—	11	—	—	10	8
19	1868	1811-12	2	1	1	1	—	—	—	14	4
20	1869	1812-13	4	8	2	3	—	—	4	—	—
21	1870	1813-14	2	1	4	1	12	—	1	7	5
22	1871	1814-15	1	14	4	1	3	6	1	5	4
23	1872	1815-16	1	2	—	1	—	—	—	11	8
24	1873	1816-17	—	13	—	—	12	6	—	10	8
25	1874	1817-18	—	11	1	—	14	—	—	10	5
26	1875	1818-19	—	13	10	1	8	—	—	8	—
27	1876	1819-20	1	11	9	1	4	—	1	7	5
28	1877	1820-21	1	4	10	1	—	—	—	14	7
29	1878	1821-22	1	1	8	—	5	—	—	12	9
30	1879	1822-23	1	3	5	—	14	6	—	10	8
31	1880	1823-24	—	13	10	—	11	—	—	10	8
32	1881	1824-25	2	7	—	2	—	—	2	2	—
33	1882	1825-26	1	2	—	1	4	—	—	10	8
34	1883	1826-27	—	9	8	—	13	—	—	10	—
35	1884	1827-28	—	9	—	—	10	—	—	7	5
36	1885	1828-29	—	8	2	—	7	—	—	12	10
37	1886	1829-30	—	10	9	—	8	—	—	9	4
38	1887	1830-31	—	9	8	—	7	—	—	6	7
39	1888	1831-32	—	6	11	—	12	—	—	6	8
40	1889	1832-33	—	10	5	—	12	—	—	8	6
41	1890	1833-34	1	7	7	1	10	—	1	1	—
42	1891	1834-35	—	15	11	1	—	—	1	1	—
43	1892	1835-36	—	11	9	—	15	—	—	12	9
44	1893	1836-37	—	11	9	—	13	6	—	10	8
45	1894	1837-38	—	9	8	—	14	—	—	10	8
46	1895	1838-39	1	9	—	1	12	—	1	2	1
47	1896	1839-40	—	14	5	—	13	6	—	12	9
48	1897	1840-41	—	13	2	—	13	—	—	12	9
49	1898	1841-42	—	14	7	—	12	6	—	12	9

(Signed) G. LEG. JACOB,
Acting Political Agent.

INDEX to the several States of Katteewar now forming Separate Jurisdictions.

No.	TALOOKAS.	PRANTS.	No. IN THE TABLE.
	A.		
1	Akria	Katteewar	50
2	Amrellee	Ditto	1
3	Ankewalia	Jhalawar	26
4	Anundpoor	Katteewar	30
	B.		
5	Babra Chumardee	Katteewar	4
6	Balaneewao	Babriawar	15
7	Bamunbor	Katteewar	35
8	Bantwa	Soruth	2
9	Bheelka	Katteewar	3
10	Bhada	Babriawar	17
11	Bhadwa	Hallar	10
12	Bhalora	Jhalawar	33
13	Bhaonuggur	Gohelwar	1
14	Bharejra	Jhalawar	52
15	Bheemora	Katteewar	34
16	Bhoeka	Jhalawar	17
17	Bhojawudur	Gohelwar	22
18	Bhoondree	Babriawar	5
19	Bhudlee	Katteewar	27
20	Bhudwana	Jhalawar	20
21	Bhulgam	Katteewar	18
22	Bhulgamra	Jhalawar	19
23	Bhundaria	Oond Surweya	14
24	Bhuthan	Jhalawar	18
25	Bhutwudur	Babriawar	16
26	Bochurwa	Gohelwar	21
27	Bodanoness	Oond	15
28	Buggusra	Katteewar	6
29	Bujana	Jhalawar	48
	C.		
30	Chitrawao	Gohelwar	11
31	Chobaree	Katteewar	40
32	Chok	Oond	9
33	Choora	Jhalawar	45
34	Choteela	Katteewar	31
35	Chuchana	Jhalawar	8
36	Chulala	Ditto	9
37	Chumardee	Gohelwar	4
38	Churkha	Katteewar	15
	D.		
39	Datha	Oond	22
40	Dedan	Babriawar	1
41	Dedukree	Gohelwar	29
42	Dedurra	Oond	6
43	Derree Janbaee	Katteewar	5

No.	Talookas.	Prants.	No. in the Table.
	D.		
44	Dewkawudur	Babriawar	23
45	Dewlia	Jhalawar	14
46	Dhandulpoor	Katteewar	43
47	Dhola	Gohelwar	15
48	Dholadree	Babriawar	20
49	Dholurwar	Katteewar	17
50	Dhurol Surupdur	Hallar	23
51	Doodhala	Babriawar	18
52	Doodhrej	Jhalawar	32
53	Drapha	Hallar	2
54	Duheeroo	Katteewar	48
55	Durod	Jhalawar	15
56	Dussara	Ditto	47
	E.		
57	Eawej and Veerpur	Oond	1
58	Ebhulwur	Babriawar	28
59	Etria Gudhala	Katteewar	39
	G.		
60	Ganjawudur	Babriawar	30
61	Geegasarun	Katteewar	49
62	Geree	Jhalawar	7
63	Gheshpur	Babriawar	31
64	Gondul Dhorajee	Hallar	7
65	Goondeealee	Jhalawar	30
66	Gowreedur	Hallar	13
67	Gudhalee	Gohelwar	17
68	Gudhea	Katteewar	14
69	Gudhoola	Gohelwar	18
70	Gundhol	Oond	20
71	Gurumlee Mhotee	Katteewar	12
72	Gurumlee Nhanee	Ditto	13
73	Gutka	Hallar	17
	H.		
74	Hindorna	Babriawar	25
75	Hulwud Drangdra	Jhalawar	1
76	Hurmuntia	Babriawar	26
	J.		
77	Jaffrabad	Babriawar	33
78	Jakhun	Jhalawar	10
79	Jallia Beejoo	Oond	7
80	Jallia Dewanee	Hallar	25
81	Jallia Umrajeenoo	Oond	8
82	Jeekadree	Babriawar	14
83	Jetpoor Cheetul	Katteewar	2
84	Jhamka	Ditto	16
85	Jhampodur	Jhalawar	28
86	Jhinjoowara	Ditto	50
87	Jhumur	Ditto	31

No.	Talookas.	Prants.	No. in the Table.
	J.		
88	Joonaghur	Soruth	1
89	Joonapadur	Oond	16
90	Jusdhun	Katteewar	26
	K.		
91	Kagwudur	Babriawar	10
92	Kankseelee	Hallar	21
93	Kanpor Eshuwuria	Katteewar	8
94	Karol	Jhalawar	4
95	Kathrola	Katteewar	10
96	Kutoria	Gohelwar	6
97	Katroree	Oond	21
98	Katurdhur	Babriawar	7
99	Kesria	Jhalawar	41
100	Khandia	Ditto	11
101	Kheejria	Katteewar	11
102	Kheejria	Ditto	55
103	Kheejria	Gohelwar	20
104	Kheerusra	Hallar...	24
105	Kheralee	Jhalawar	29
106	Khumbala	Katteewar	32
107	Khumlao	Jhalawar	6
108	Kooba	Katteewar	53
109	Koondliala	Babriawar	2
110	Kotharia	Hallar	14
111	Kotra Nuyajee	Ditto	26
112	Kotra Peetha	Katteewar	7
113	Kotra Sanganee	Hallar	9
114	Kotree	Babriawar	9
115	Kowaya	Ditto	29
116	Kumalpoor	Jhalawar	5
117	Kumundhia & Waoree	Katteewar	42
118	Kuner	Ditto	9
119	Kunjhurda	Oond Surweya	10
120	Kuntharia	Jhalawar	3
121	Kuntharia Kysa	Babriawar	8
122	Kuntharia Coolee	Ditto	11
123	Kureeana	Katteewar	29
124	Kurmur	Jhalawar	46
	L.		
125	Lakhapudur	Katteewar	20
126	Laliad	Jhalawar	21
127	Lathee	Gohelwar	16
128	Leemra	Ditto	24
129	Limree	Jhalawar	2
130	Lodheeka	Hallar	15
131	Loongia	Katteewar	23
132	Lor	Babriawar	19
	M.		
133	Mallia	Muchoo Kanta	2
134	Manawao	Katteewar	19

No.	Talookas.	Prants.	No. in the Table.
	M.		
135	Mansa	Babriawar	13
136	Matra Timba	Katteewar	37
137	Meshria	Jhalawar	38
138	Mehwasa	Katteewar	36
139	Mengnee	Hallar	8
140	Mouwel & Ruwanee	Katteewar	21
141	Moolee	Jhalawar	42
142	Mooleeraderee	Hallar	4
143	Moonjpoor	Jhalawar	43
144	Morehopna	Oond	13
145	Morvee	Muchoo Kanta	1
146	Muwa	Hallar	22
	N.		
147	Nagsree	Babriawar	6
148	Neeluwra	Katteewar	41
149	Neengala	Babriawar	24
150	Nuwanuggur	Hallar	1
	O.		
151	Okhamundul	Okhamundul	1
152	Oontiawadur	Babriawar	27
153	Oontree	Jhalawar	25
	P.		
154	Pa-a	Oond	5
155	Pal	Hallar	16
156	Paleetana	Gohelwar	27
157	Paliad	Katteewar	33
158	Panchuwra	Gohelwar	7
159	Patree	Jhalawar	49
160	Peechree	Babriawar	3
161	Pachrioo	Ditto	4
162	Poorbunder	Burda	1
163	Puchegam	Gohelwar	10
164	Pulalee	Jhalawar	16
	R.		
165	Raee Sanklee	Jhalawar	53
166	Rajkot Surdhar	Hallar	12
167	Rajpur	Jhalawar	34
168	Rajpura	Hallar	11
169	Rajpura	Oond	4
170	Rampurda	Katteewar	46
171	Ramunka	Gohelwar	12
172	Randhia	Katteewar	54
173	Roheesala	Oond	18
174	Rutunpur Dhamunka	Gohelwar	2
	S.		
175	Saela	Jhalawar	44

No.	Talookas.	Prants.	No. in the Table.
	S.		
176	Sakria...	Babriawar...	21
177	Saooka...	Jhalawar...	24
178	Sangana...	Babriawar...	32
179	Satanoness...	Oond...	11
180	Satodur Waoree.....	Hallar...	5
181	Seesang Chandlee...	Ditto...	6
182	Sejukpoor...	Katteewar...	45
183	Sewreewudur...	Oond...	17
184	Shapoor...	Hallar...	20
185	Sheroda...	Oond...	3
186	Silana & Halria...	Katteewar...	25
187	Sonpuree...	Gohelwar...	9
188	Soodamra...	Katteewar...	44
189	Sumla...	Jhalawar...	23
190	Summundhiala...	Katteewar...	28
191	Summundhiala...	Oond Surweya...	19
192	Summundhiala & Chubaria.....	Gohelwar...	23
193	Sunala.....	Oond...	2
194	Sunosra...	Katteewar...	38
	T.		
195	Tavee...	Jhalawar...	13
196	Than Luktur...	Ditto...	39
197	Timbee...	Babriawar...	12
198	Tora...	Gohelwar...	5
199	Tulsana...	Jhalawar...	12
	U.		
200	Ulumpur...	Gohelwar...	14
201	Umrapur...	Soruth...	3
202	Urjunsook...	Katteewar...	51
	V.		
203	Veerpur Khureree...	Hallar...	3
204	Veerwao...	Ditto...	19
205	Vekria.....	Katteewar...	22
	W.		
206	Wagdra...	Gohelwar...	26
207	Wagwree...	Katteewar...	24
208	Wankaneer.....	Jhalawar...	37
209	Waoree...	Gohelwar...	25
210	Waoree Wachanee...	Ditto...	8
211	Weechawur...	Katteewar...	52
212	Wejanoness...	Oond...	23
213	Withulghur...	Jhalawar...	40
214	Wudal.....	Oond...	12
215	Wudalee...	Hallar...	18
216	Wudwan...	Jhalawar...	27
217	Wula...	Gohelwar...	3
218	Wuna...	Jhalawar...	36
219	Wunala...	Ditto...	22
220	Wunod.....	Ditto...	51
221	Wurod.....	Ditto...	35
222	Wurod...	Gohelwar...	13
223	Wuroonchya...	Babriawar...	22
224	Wussawur...	Katteewar...	47

SUPPLEMENTAL INDEX.

INDEX to the several States of Katteewar absorbed in, or united with, other States since the Permanent Settlement.

No.	TALOOKAS.	PRANTS.	No. in the Table.	States in which absorbed, or with which united.
	A.			
1	Ambla...	Katteewar.	3	Under Amrellee.
2	Ambulree...	Ditto.	2	
3	Amrun...	Hallar.	5	do. Nuwanuggur.
4	Anealee...	Katteewar.	73	do. Jusdhun.
5	Atkot...	Do.	87	do. Nuwanuggur.
	B.			
6	Barputolee...	Babriawar.	2	do. Dedan.
7	Bhadla...	Katteewar.	90	do. Nuwanuggur.
8	Bhakodur...	Babriawar.	16	United with Katurdhur.
9	Bharookia...	Hallar.	4	Under Nuwanuggur.
10	Burwala...	Katteewar.	92	do. do.
	C.			
11	Chulala...	Ditto.	30	do. Amrellee.
	D.			
12	Deetulwudur...	Ditto.	33	do. do.
13	Deola...	Ditto.	32	
14	Depla...	Oond.	29	do. Bhaonuggur.
15	Dhabalee...	Katteewar.	13	Under Amrellee.
16	Dharee...	Ditto.	15	
17	Dhareejugance... ...	Ditto.	34	
18	Dharugnee...	Ditto.	16	
19	Dhulkhanioo..... ...	Ditto.	14	do. do.
20	Dhussa...	Ditto.	101	United with Raee Sanklee.
	G.			
21	Ghanla...	Babriawar.	33	Under Bhaonuggur.
	H.			
22	Halria...	Katteewar.	62	United with Silana.
23	Hathsunee...	Oond.	1	do. Datha.
24	Hemal...	Babriawar.	23	do. Katurdhur.
25	Holree...	Katteewar.	26	Under Amrellee.
26	Hureeana...	Hallar.	3	do. Nuwanuggur.
27	Hurmuntia...	Katteewar.	72	do. Jusdhun.
	I.			
28	Ingorala...	Katteewar.	63	do. Amrellee.
	J.			
29	Jeera...	Ditto.	10	do. do.
30	Jesur...	Oond.	27	do. Bhaonuggur.
31	Jhur.....	Katteewar.	52	do. Amrellee.
32	Jhurukhla...	Oond.	28	do. Bhaonuggur.
33	Jinkeealee...	Katteewar.	11	do. Amrellee.
34	Joria Balumbha... ...	Hallar.	2	do. Nuwanuggur.
35	Jussupur...	Katteewar.	68	do. Jusdhun.
	K.			
36	Kalasur...	Ditto.	87	United with Bheemora.
37	Katuwree...	Ditto.	7	Under Amrellee.
38	Kerala...	Ditto.	104	do. Wudwan.
39	Kerala...	Ditto.	4	Under Amrellee.
40	Khakbaee...	Babriawar.	32	
41	Kheecha Nhana.... ...	Katteewar.	8	
42	Kheejrioo the 2d... ...	Gohelwar.	30	
43	Khumbalia...	Katteewar.	9	
44	Kureree...	Hallar.	8	United with Veerpur.
45	Khoobra...	Katteewar.	6	Under Amrellee.
46	Koondnee... ...	Ditto.	66	do. Jusdhun.
47	Kootia...	Oond.	26	do. Bhaonuggur.

No.	Talookas.	Prants.	No. in the Table.	States in which absorbed, or with which united.
	K.			
48	Kothee...	Katteewar.	65	Under Jusdhun.
49	Kotra...	Ditto.	5	do. Amrellee.
50	Kumee...	Ditto.	28	do. Amrellee.
51	Kumeeghur... ...	Ditto.	27	do. Amrellee.
52	Kunesra...	Ditto.	67	do. Jusdhun.
	L.			
53	Lampalia...	Ditto.	36	do. Amrellee.
54	Loharia...	Ditto.	57	United with Jetpoor.
	M.			
55	Mehwassa...	Ditto.	19	Under Amrellee.
56	Menduwra...	Ditto.	18	Under Amrellee.
57	Meree...	Ditto.	35	Under Amrellee.
58	Modhooka...	Ditto.	69	do. Jusdhun.
	N.			
59	Nagdhuree... ...	Ditto.	29	do. Amrellee.
	P.			
60	Panchaora...	Ditto.	94	do. Nuwanuggur.
61	Pandria...	Oond.	8	United with Chok.
62	Patna Maljee... ...	Gohelwar.	31	Under Jusdhun.
63	Pepraloo...	Katteewar.	17	do. Amrellee.
	R.			
64	Rajpeepla...	Gohelwar.	17	do. Lathee.
65	Raneegam...	Oond.	7	United with Datha.
66	Ranpurra...	Ditto.	21	Half under Datha and half under Rajpur in Jhalawar.
	S.			
67	Sanklee...	Jhalawar.	53	United with Raee.
68	Sanunthlee...	Katteewar.	91	Under Nuwanuggur.
69	Satpura...	Oond.	31	do. Bhaonuggur.
70	Seewur...	Katteewar.	23	do. Amrellee.
71	Setulioo...	Ditto.	71	do. Jusdhun.
72	Sirumbra...	Ditto.	24	do. Amrellee.
73	Sumundhiala... ...	Ditto.	38	do. do.
74	Sumundhiala... ...	Ditto.	93	do. Nuwanuggur.
75	Sumundhiala Nhana... ...	Ditto.	25	do. Amrellee.
76	Surseea...	Ditto.	22	do. Amrellee.
77	Surupdur...	Hallar.	29	United with Dhurol.
	T.			
78	Teekria...	Katteewar.	12	Under Amrellee.
79	Tunkara...	Jhalawar.	50	United with Morvee.
80	Turwura...	Katteewar.	31	Under Amrellee.
	U.			
81	Ujmer...	Katteewar.	95	do. Nuwanuggur.
	V.			
82	Veerpoor...	Ditto.	21	do. Amrellee.
83	Veerpur...	Oond.	3	United with Eyawej.
84	Veerree...	Gohelwar.	18	Under Lathee.
	W.			
85	Wankia Mhota... ...	Katteewar.	37	do. Amrellee.
86	Waoree...	Oond.	30	do. Bhaonuggur.
87	Wurreeoo...	Katteewar.	20	do. Amrellee.
88	Wurja Teeruth... ...	Ditto.	70	do. Jusdhun.

N. B.—8 New Tributaries having been established since the Permanent Settlement, render the numeric difference only 80, as shown in the General Abstract Table of the Statistical Returns.

(Signed) G. Leg. Jacob,
Acting Political Agent.

(True Copies) (Signed) J. P. Willoughby, *Chief Secretary.*

Continuation of Desultory Notes and Observations, on various places in Guzerat and Western India. By JOHN VAUPELL, Esq.

[Communicated by the Author.]

1838. *December.*—Set out on a Tour through Guzerat, after an absence of twelve years: the debilitating consequences of constant application to business requiring a change both of air and scene; which, added to the bracing effects of the cold season, in a more northern latitude, with active exercise, promised well for re-invigorating a frame already considerably relaxed from long residence (37 years) in an Eastern clime. Embarked for Tunkaria Bunder in a botella, differing from those of former days by the after part being converted into a roomy comfortable cabin, with three ports on each side; venetian stern windows and blinds, a quarter gallery, and lockers all round; a pannelled bulk head, with two doors in front opening outwards. The size of this vessel is about 150 candies, or fifty tons, built three years ago, at Surat, at a cost of Rs. 4,000.

VALENTINE'S PEAK.—A remarkable conical inverted funnel-shaped Hill, abreast of Danoo, in the North Concan, called by the Natives Maha Luxumee. It is ten or fifteen miles inland from the Coast. The Peak on the apex of the cone is of considerable elevation, and an object of veneration to the Natives, who have a strange tendency to consider sacred every object in nature either rare or to them difficult of comprehension. An annual Yatra or Fair is held here on the full moon of Chaitra (March,) to which a numerous assemblage of devotees resort. The spirit of the Devi (goddess) is supposed at this period only to enter into the Patell of the village (situated at the base of the mountain,) and to inspire him with fortitude sufficient to overcome all difficulties in climbing to the summit of the Peak. On accomplishing this dangerous feat, he plants a flag with a standard on the apex; thus announcing to the wondering crowds below the successful accomplishment of his purpose. On this the assemblage set up such a din and clamor in honour of the Devi, as would suffice to deprive any sober-minded person of his senses. It is carefully promulgated, that should any one else, not of the favored Patell family, presume to attempt the ascent, death would inevitably ensue; and instances are related of such occurrences. The Peak is noticed in Directories as a useful mark to enable vessels to double St. John's point, which runs out to a considerable distance Westward into the sea.

PARNEIRA.—A remarkably high hill, about ten miles north of the Portuguese settlement of Damaun, and three miles inland from the Coast, terminating, though itself isolated and rising from the plain, the range of Ghaut Mountains which line the Sea Coast of the Concans. On the top is situated a strong stone Fort: a Military officer's party used to be stationed here formerly. It is about two and a half or three

miles from the plain by the road, which in several places is of difficult and devious ascent. There are several extensive reservoirs of good water on the top within the Fort. The Hills of the Dhurrumpore range are clearly visible from it. It would form a cool and pleasant residence for invalids from Surat and its neighbourhood, during the hot season. Supplies are abundant and good in the town of Bulsar, about three coss north of the hill, on the direct road to Surat.

Having entered the Gulf of Cambay, formed by Diu point on the Western Coast and St. John's Cape on the Eastern, several Native vessels of different kinds were observed. It may not be amiss here to place on record the different classes of native craft that navigate this Coast, from the Indus to Cape Comorin ; and which are the principal carriers of the trade of this side of India : they are as follows :—

1, *The Dow, or Buggelah.*—This is the largest of the lateen or shoulder-of-mutton-sail craft, varying from 300 to 1,000 candies burthen ; they have usually one large mast, formed of a single spar, to which is hoisted a huge lateen sail, fixed to a long tapering yard hung in slings ; two-thirds of this yard remaining behind, and one-third before, the mast. They have generally high square sterns, and low grab-shaped bows, and are decked ; sometimes they carry guns ; they seldom carry jibs or mizen sails. The forefoot or tack of the mainsail is made fast to the bow, and the main sheet to the quarter abaft the beam. These vessels belong chiefly to, and are navigated by, Arabs, carrying from thirty to 100 and 150 men, and are common to the Red Sea, Persian Gulf, and Western Coast of India.

2, *The Dingy.*—This is the next in size on the descending scale, and varies from 50 to 300 and 500 candies burthen. It differs from the foregoing in having either a round or square stern, generally very lofty, and a mizen mast ; no deck, but open hatchwork, consisting of removable beams, laid lengthwise and across the vessel, fitting into sockets, so as to admit of a matting of flat split bamboos being laid along and upon them, forming a deck sufficiently strong, and possessing the advantage of being removable at pleasure, which is usually done whenever taking in or discharging cargo renders it necessary. Besides the main yard, this kind of vessel has a moveable boom, to the outer end of which the forefoot or tack of the sail is fastened, and the boom shoved out with the attached sail, projecting several feet beyond the bows—a most clumsy contrivance ; for every time the vessel tacks about it is necessary to take it in and shove it out again. The rudder is also hung in a peculiar way, well described by Captain (the late Colonel Sir Alexander) Burnes, in his account of his voyage up the Indus. It hangs separate from the stern post, leaving a considerable opening between it and the vessel. This craft is peculiar to the Coasts of Mukran, Scinde, and Cutch, carrying crews of from ten to twenty-five

men. They usually have two flagstaffs on the stern, from four to six feet high, to the top of each of which a weather-cock is fixed, and the head is turned up involute, which makes the whole boat resemble a native shoe.

3, *Kottiah, Padow, Gulbut.*—Next in order come the vessels of the Kattywar Coast and Gulf of Cutch; they are named either Kottiah, Gulbut, or Gallivat or Padow, according as they are built with angular, square, or round sterns, respectively; they vary in size from thirty to 100 and 150 candies, carry mostly two lateen sails on a main and mizen mast, having occasionally a trysail or jib: being of a sharp build they usually sail well. It was this description of vessel that in former times were used for Piratical purposes, and are still occasionally, but very rarely, so used. They carry a crew of from six to fifteen persons, according to size, one of whom is the Tindal or Master, the other the Dongvee or Pilot. Although most of these vessels have a compass on board, it is seldom or never used, except during rainy, cloudy, or boisterous weather, when the Coast is invisible: these boats seldom venturing beyond soundings, and still seldomer out of sight of land, accounts for the little use they make of the compass. There are, however, exceptions to this general rule in those more adventurous characters who venture to the African Coast on trading voyages, but who generally keep within soundings as far as they can.

4, Fourthly.—As we proceed Eastward and Southward, come the vessels of the Gulf of Cambay and Coast of Guzerat; these are

1, The Dorioh, or ketch square riggid.
2, The Botella.
3, The Orioh.
4, The Padow.
5, The Gallivat.

1. The Ketch is named Dorioh, or the one-and-a-half, from its having a main and mizen mast, rigged with yards and shrouds like our ships; and having square sails, topsails, and topgallantsails, a driver and mizen topsail, with trysail and jib. The only thing remarkable in these imitations of Ketches, is a long narrow strip of stern which extends several yards from the sternpost, and on a level with the Poop, or upper Deck, having a parapet railing two feet high running on each side, and closed with plank at the stern: it seldom exceeds two to three feet in width, and being planked below, forms a sort of projecting gallery from which the whole vessel, when under sail, may be viewed. These Ketches are peculiar to Surat—the mouldering remains, probably, of the once flourishing navy of the Great Mogul, whose Admiral's descendants, the Seedee of Junjeerah, of African lineage, near Angria's Colaba, still survive the wreck of their former grandeur. The town and port of Jaffrabad on the Kattywar Coast, belongs to this family as its Jaghire. These vessels will soon be extinct,

for when one is decayed or lost, it is never replaced by a new one of the same construction, botellas or other vessels being preferred.

2. The Botella may be described as the Dow in miniature, from which probably the original model was taken. It has invariably a square flat stern, and long grab-like head; varies from fifty to 300 candies, and is by far the most numerous of any class of coasters employed as carriers of merchandize &c. They have one large and one small mast with a jib-boom, to which they hoist a large and small lateen sail and a jib. In foul weather they have an oblong square sail, which is hoisted to the mainmast by a square yard in slings; these vessels are flat-bottomed, or, which is the same thing, have a broad beam. The one I am now writing in is rated at 150 candies burthen, is about sixty feet long over all from stern to stern, has a beam of fifteen feet, a depth in the hold of ten feet, and a keel of forty five feet; the head and stern posts both diverge from the perpendicular with reference to the keel, the latter at an angle of about ten degrees from the meridian, the former forty-five degrees. These vessels, from their flat build, make much leeway on a wind, especially if in ballast or with a cotton cargo. They are manned with from eight to fifteen men, one of whom is Tindal or master. They seldom or ever carry a Pilot, the Tindal being supposed sufficiently conversant with the navigation of the Gulf and Coast. They sometimes go down as far as Cochin and Colombo, but these are those of the largest burthen, and solely for timber, or arrack, their flat build rendering them more peculiarly adapted for this trade. They are usually built of teak, and are constructed all along the coast from Surat to Danoo. They are navigated by Guzerattee fishermen during the fair season from October to June, and laid up high and dry during the S. W. monsoon. Many of these fishermen become owners when their gains will admit of their building a botella, which course they always prefer to purchasing one already built, and no doubt for many and wise reasons. These boats are generally speaking safe and commodious, and now that they are beginning to be fitted up with cabins astern, have the additional qualifications of comfort, privacy, convenience, and cleanliness.

3.—5. The Orioh and Gallivat differ from the Botella only in the former having a bluff round head, similar to that of our ships, and resembling precisely in model a ship's long boat; and the latter in having a rounded or angular stern, and being sharper built. The former are peculiar to Broach, the latter to the ports on the western shore of the Gulf of Cambay.

4. The Parow now remains. This is precisely the Botella in miniature, seldom exceeding thirty candies in bulk, and confined to the ports in the Gulf north of Bulsar. They go down southward as far as Mahim and Bandora with firewood and grain in the fair season; but seldom or ever further south.

5. The Pattimar, or coaster to the southward of Bombay, now remains to be described. This, I hesitate not to pronounce from experience, is by far the best built, best found, and best navigated, native vessel on the whole coast of the Indian Ocean, from the Straits of Babelmandel to the Gulf of Manaar. These do not vary much either in size or build, being comprised within 100 to 300 candies in burthen, and of a sharp narrow construction; the timbers used being the strongest and most substantial procurable—suited, in short, as experience has taught them, to the navigation of a coast bounded by rocks and rocky reefs, with high surfs rolling wherever there is anything like a sandy beach. These vessels sail admirably, particularly on a wind; they have a main, a mizen mast, and a jib boom, to which they hoist a large and small lateen sails and a jib. The masts of these Pattimars rake considerably forward, so that the angle formed by the top of the mast with the head, and the insertion at the main thwart, is nearly, if not exactly, a right angled triangle; the sails are large in proportion to the size of the vessel, substantial and well made; the yards to which the sails are hoisted, project forward from the head of the mast about one-fourth, and three-fourths behind, and they end in a long sharp point. But the greatest peculiarity about the construction is that of the keel; in other vessels this is generally a straight piece of timber, nearly equal on four sides, and of sufficient strength to raise the superstructure upon; but in these Pattimars it consists sometimes of three, often of two, distinct pieces of timber: the first one-third of its length invariably straight, or horizontal, the remainder, whether of one or two pieces, a curve downwards, the lower part of which, or what is technically called the forefoot, terminating considerably below the line of the hinder or sternpost end; it may be described to form half a semicircle from the commencement to the termination of the curve: this leaves a considerable space below the level of the keel to be planked up, and answers two manifest purposes—first, it enables the vessel to keep its luff (as seamen would say) or sail on a wind without making lee way; and secondly, in the event of the vessel being near rocky ground, on touching, the forefoot gives warning sufficient to shove her off, the rest of the keel remaining afloat. The Crews of these Pattimars are composed principally of Roman Catholic Christians, often of Cooly or Hindoo fishermen, many of whom are owners of them: the order, cleanliness, subordination, and even decorum, they manifest, is remarkable; every rope is in its proper place, duly coiled and kept ready for use, and every article of the most seaworthy description. I speak from experience and observation, having been down the Coast as far as Tellicherry and back again in Pattimars, and having had many other occasions of observing them: they are manned with from ten, fifteen, to twenty men, of whom the Tindal is master; he has fre-

quently a Pilot to assist him in navigating the vessel, a leadsman, and several seacunnies or steersmen.

The only other craft used on this coast are the Fishing boats and Canoes. The latter require no description ; of the former it may be said that at and from Damaun northward, they are constructed after the model of the Botella, and to the southward after that of the Pattimar, never exceeding in size that of a longboat of a ship of 500 tons.

Tapty River.—About 8 P. M. tide and wind serving, got under weigh and stood out to sea. There are extensive flats or sandbanks at the mouth of the Tapty river (vulgo Tapee) which it requires constant sounding and care to avoid. The channels are two, one under the north bank, the other under the south bank ; the river at its mouth extends five or seven miles from shore to shore, of which space these channels may occupy about a mile or a mile and a half. Boats getting on these sandflats are often lost. One which we saw on the beach of Bhimpore, with the stump of the mast remaining, and a hole in her bottom, had been overset a few miles to the southward but a fortnight before, and the cargo, consisting of oil and cotton seeds, entirely lost. The night of our entering Bhimpore Creek, one of our companions from Bombay, laden with bhat (rice in the husk,) and bound to Surat, was likewise lost, from her crew's carelessness in not anchoring at the turn of the tide in sufficiently deep water in mid-channel ; near the time of low water the vessel rode over her anchor while the crew were asleep, and bumping against it drove a fluke into her bottom which very soon swamped her : the cargo was lost, but crew and vessel saved. On enquiry, I find the natives seldom or ever take the precaution of ensuring their cargoes—their vessels never. It would not probably be a losing speculation to establish an Insurance office, with a moderate capital, expressly to assure these country craft from the usual risks of the sea ; proportioning the premiums to the nature of the risks, which vary at the different ports in the Gulf, encreasing progressively on the eastern shore as far as Cambay, the most dangerous port of all, and decreasing in like manner on the western shore in a southerly direction. The capital need not exceed 1,25,000 rupees, to be raised in shares of rupees 500 each, or 250 shares, to be vested in Government Securities. No risk, either on block or cargo, to be taken to exceed 5,000 rupees on any single vessel ; with a few other rules, as experience and necessity might suggest. The greatest risk to guard against would be native dishonesty ; but checks to prevent in some degree this evil might be devised. It will be objected, that the natives have already the means of effecting similar insurances in the bazaar : true, but it is well known that a loss is seldom paid on a bazaar policy without litigation and the expences of a lawsuit ; this very reason is urged by owners of vessels why they

never insure, as recovery in the event of loss is, under present circumstances, a hopeless case. On seeing, however, that they were fairly dealt with, it is presumed many would prefer such an institution to the bazaar. Of the other improvements in this vicinity, is the establishment of a light on the point near Vaux's Tomb, and another on the Island of Perim near Gogo, both of which were much wanted. In the Roads there was but one solitary Brig anchored. What a change has come over the commercial destinies of Surat! From one of the most flourishing trading ports in the end of last and commencement of the present centuries, where the flags of all nations were to be seen proudly waving over their respective Factories, it has dwindled away to next to nothing; and, as if in combination with political causes, the elements, both of water and fire, have within the last five years added to the desolation of this once far-famed emporium, and Surat now remains but the shadow of what it once was, two-thirds to three-fourths of the city having been annihilated. May these judgments of the Almighty have a salutary effect on the minds of those who remain!

Friday, 28*th Dec.*—Rose shortly after sunrise—northwester still blowing, but much moderated; felt colder this morning than hitherto this season—had no thermometer to refer to, but suppose it must have stood beteen 45 and 50 degrees Fahrenheit. About 8 A. M., the tide serving, got under weigh, and bid farewell to Surat Roads. Even I can remember the day when they used at this season to be crowded with shipping, now passed away probably for ever. The continued rising prosperity of Bombay will account in a great measure for this, in addition to the calamities above alluded to, as well as the transfer thither of the numerous pilgrims who resort to Mecca and Medina annually—Surat having, in consequence, lost the name as well as title to the appellation of the "Gate of Mecca," formerly bestowed on it by the Mahomedan Conquerors of India.

Saw Perum Island distinctly, with the Lighthouse on the hill, bearing south-westerly distant six or eight miles; saw also the mountains of the coast about Gogo stretching north from Perum. This Island has become an object of much interest to the Naturalist, from the discovery of the Fossil remains of animals now extinct. It is situated close to the western shore of the Gulf, and about three miles south of Gogo.

Gogo.—This port in the days of Mahomedan ascendancy was one of the most flourishing in the upper part of the Gulf, and was considered as the seaport of Cambay. It derives its name from Gogobawah, its founder, a Rajpoot chieftain, mentioned by Colonel Todd in his annals of Rajasthan. It was sacked and burned, together with Gundar, Broach, and Hansote, in the middle of the sixteenth century, by the Portuguese under Dom Manoel De Lima, in revenge for the in-

vestment of the Fortress of Diu, so ably defended by Dom Joao de Castro, fourth Viceroy of India, and his Captain Dom Joao Mascarenhas, against the armies of the Mogul ruler of Guzerat. Gogo has never recovered the effects since. It is admirably situated for a trading port; ships of the largest burthen can come up into the roads, where there is good anchorage ground about a mile off shore, well defended from southerly and westerly winds. It would answer well to have a sett of iron re-pack Cotton-screws here, in which case ships might come and take in their lading at this anchorage during the fair season, thus saving all costs and charges to Bombay, which has been estimated at from 25 to 30 per cent. inclusive of re-pack charges and custom duties there. At 8 A. M., a gentle breeze springing up from the land, weighed and stood along shore. Deep water, twelve to eighteen fathoms close in, the shore about half a mile distant: kept along this shore, with alternate winds and calms, until the entrance of the Dadur river leading to Tunkarree Bunder, which was effected about 2 P. M. At the distance of about five miles north, the temple and grove of Dew Juggun was observed—a leading mark for boats entering the Dadur. Shortly after the Custom House at Tunkarree was descried, with a flowing tide and gentle breeze we reached the Bunder about 3 P. M. Landed and proceeded to Tunkarree village, where I was hospitably lodged by my old acquaintance Adam Allibhy, Patell of that place. The fields of cotton and jowarree bear ample testimony to the deficiency of last rains. The cotton plants have attained their full growth, but have produced little or nothing—many plants nothing at all; these latter, from want of grass, the peasants pull up and give to their cattle for fodder. The jowarree fields have in many places dried up entirely. A timely supply of grain, rice and naglee, from the coast, has preserved the people here from famine. There is no water in the tanks, the people being dependent solely on the supply afforded by wells for themselves and cattle.

ADAM PATELL.—A few words should be said about Adam Patell. He is a hale, healthy, tall old man, of about sixty years of age. He is a Mahomedan, and of the tribe of Bhora cultivators—a people common to the Broach, Ahmode, and Jumbooseer Purgunnahs. They say they are descendants of Abraham by Ketturah, and the progeny of his son Ishmael. It is remarkable that they have nothing to do, or in common, with the shopkeeping pedlar and Surat tribe of Borahs: they acknowledge not the authority of their High Priest, nor follow their rituals, but in their habits, customs, and manners, resemble more the Hindoos than Mahomedans. They say their High Priest resides at Randeir near Surat: they call themselves Char Yaree, in contradistinction to the pedlar Bhoras, whom they discribe as Teen Yaree. Their women dress like Hindoos, and themselves like the Grassias. They are a frugal, industrious, and hard working race of men. Adam Patell of Tunkar-

ree, has for many years past been engaged in the preparation of cotton for the merchants of Bombay; he has also employed himself usefully in many other ways, being a kind of general native agent. By his industry and frugality, he has laid by between 15 and 20,000 Rupees, and as he has more sense than to throw away any part of his hard-earned savings in ostentatious works, or frivolous unmeaning ceremonies, he has become the envy of all the village, and especially of those of his own class. I have known him ever since 1822, and have had occasions of dealing with him extensively, and of knowing him intimately, particularly when I was engaged in the cotton agency trade, and can safely say I never found a person more attentive to, and active in, his duties, and I always observed that he was strictly correct in his accounts. So much for Adam—may he go on and prosper!

GOSAHOD.—This is a large village belonging to the Guicowar, well supplied with water from a large tank and also from wells. No supplies to be got here. The route from Tunkarree to this place is as follows: viz., Jumbooseer six coss, Vowlee two coss, Mahsur four coss, Gosahud two coss; by another route—Jumbooseer six coss, Oochud three, Kunjut one, Kooral two, Gosahud two: either way fourteen coss, or about twenty one or twenty-two miles. The roads from Jumbooseer are mostly deep, heavy, white sand; the country most fertile, scenery most beautiful, the whole face of the land covered with trees and fields. The cotton not looking so well as in years of abundance of rain; other crops, raised by irrigation, thriving most luxuriantly, such as sugar cane (red), tobacco, huldee (curcuma longa), castor oil plant (ricinus communis), dholl plant (citysus cajan), wheat, barley, brinjals, and other potherbs. The trees observed in this day's route were principally mangoe, khirnee also called rayeni (mimusops kauki), Salvadora Persica, and linifolia (a new species,) wood-apple trees (Feronia elephantum), ficus Indica, and religiosa (vurr and pipul,) custard-apple (annona squamosa,) on the road side. The trees are most lofty, and shew every appearance of being rooted in a most fertile soil. This was mostly sandy, with occasional patches of black cotton land. The manure used is that of cowdung, dead leaves, refuse of vegetables, and rich mud scraped from the bottom of tanks or reservoirs of water. Some of the trees full grown were fifty to sixty feet high, with immense spreading branches. Mangoes and some others, from being planted at regular distances, gave the country the appearance of a park or preserve. The animals observed were jackalls and monkeys, the latter in great abundance. The birds were partridges, peafowl, sarus, duck and teal, blue and green pigeons, doves, &c.

Tuesday, 1st January, 1839.—A bright moonlight, got under march by 5 o'clock, roads not so sandy as yesterday; scenery and fertility of

the country increasing in interest and beauty; passed through a forest of wood-apple trees, and picked up several ripe ones. Heard plenty of partridges but saw none. Passed a large tank on the road side near Somapoor, built with brick walls, and steps leading down to the water, with circular entrances for the water leading into it from the surrounding country. Upwards of 500 Brinjaree bullocks passed us on the road near this tank proceeding to take a lading of salt near Tunkaree bunder, and return therewith to Malwa. Passed several strings of gharrees laden with Malwa Opium proceeding to Tunkarree bunder, for Bombay. I was informed at Jumbooseer that 12,000 chests of Malwa Opium have already been shipped, and that 3,000 more are on their way down. Arrived by 9 o'clock at the village of Latifpoor, and put up at a Syud's Peer's Tomb, under the shade of some lofty trees by the road side. Breakfasted and spent the forenoon here; started again at 2 P. M. and passed by Padra, a large straggling town, where were observed bricks making, and kilns prepared to burn them in. The houses in this part of Guzerat are built chiefly of this material, and are large,—generally of two or three stories high. The peasantry are well looking, well dressed, tall athletic men; they appear to be an industrious thriving race, well clothed and well fed; their country bore the marks of plenty and abundance,—most fertile, most productive. At the village of Wasna, a large tank with abundance of water, saw a few wild teal and curlews; passed the Race Course, and arrived in Baroda Camp near the Residency about 7 o'clock at night, having come about twenty-three miles this day.

Thursday, 3rd.—At Baroda. Major F. called to see the Bishop, and brought with him a brass image of Parishnath, taken several years ago at Balmeer. The date upon it appears to be 1492 of Vikramajut, which differs from what Dr Wilson made it out to be by about eight hundred years.

Monday, 7th.—Rose at 4 A. M. and prepared for the march; packed up and filled the carts, and started them off for Washud. Left Baroda Camp at half past 3 o'clock and arrived at Washud bungalow by 7 P. M. The villages on the road are Chawnee, Dusrut, Puddamlah, Fazilpoor, Mahi river, and Washud, distant about fifteen miles.

Tuesday, 8th.—Left Washud at half past 3 P. M. and proceeded by an excellent road through an open level country to Arass two coss, Khurrole two coss, Syudpoor one and a half coss, and Anund Mogree one and a half coss, where we arrived just at the entrance of night. Nothing of much interest occurred in this day's march: we met with a wild hog on the road, but saw no other game. The country bears evidence of good cultivation,—tobacco,

cotton,* sugar cane, wheat and barley, also dholl (cytisus cajan), being the principal products. The predominating trees were the kirnee or rayini, (mimusops kauki), the mango, and the tamarind—a bawul jungle now and then skirting the horizon in the distance. The tanks were some dry, and others drying up fast: the wells however contain plenty of water, both for the purposes of irrigation as well as for private consumption. They make a coarse dungaree cloth here, called gujjeeah, thirty-six to forty cubits long, costing from two and a half to three rupees per piece. The people and houses indicate a state of prosperity and comfort, the former being generally well clothed and in good condition, the latter built of kiln-burnt bricks and mud, often coated with chunam, and frequently two or three stories high. Left Anund at about half past 3 o'clock, and proceeded on to Lambwell two coss, Boreeawee one coss, Bombale one coss, Outrundah one coss, and Neriad two coss. A delightful well wooded and well cultivated country. Its chief products are tobacco, cotton, and sugar-cane, raised by irrigation, now and then interpersed with fields of barley, jirah (cuminum cyminum), and wheat. Roads sandy. Hedges well made, and kept in good order, principally composed of euphorbium antiquorum and tirucalli; and near villages the mimosa scandens, whose dense long branches and foliage, and thickly studded recurved spines, form an almost impenetrable barrier; these latter are found principally in the neighbourhood of villages. We reached Neriad after dark about 7 P. M. and put up in the Cutcherry in very comfortable apartments. This is one of the largest towns in Guzerat; population estimated at between forty and fifty thousand inhabitants. It carries on a considerable trade with Malwa and the interior, importing grain, drugs, gums, and dye stuffs, and exporting in return cotton, coarse dungarees, chintzes, tobacco, coarse sugar or jagree, &c. The lands here are assessed at a certain rate per beega, but according to the crop raised thereon, from five to ten, and as high as Rupees seventeen, per beega; tobacco five at seven, sugar-cane ten, and so on—the most valuable crops generally paying the highest rates. It was gratifying to learn that Government had already appointed a public officer to make enquiries on this subject, and that it is in contemplation to assess all lands according to the qualities of the soil, and not according to the nature of the crops raised upon it, and to render the assessment permanent. This would be by far the preferable mode as affording room for improvement. The Ryot, knowing he would have to pay a fixed rental, would be left quite at liberty to raise any crop he thought most likely to afford

* The cotton here is of a different description from what grows in the Kanum and western Districts, being a quinquennial plant, cut down annually to the root, which throws out five to eight long taper stems six to eight feet high. The leaf is smaller than any I have seen, and deeply two-lobed. Native name Roree. Not irrigated.

him the greatest return for his labor, and would improve the quality of his land preparatory to raising the richest crops thereon, without being deterred by the apprehension of having to pay a higher rate of tax for them. This would be a decided benefit both to the cultivator and the country.

Wednesday, 9th.—Started at daybreak for Kaira, where we arrived about 10 A. M. and put up at the Travellers' Bungalow. Visited the Church, which is a beautiful building rather out of repair. It is quite melancholy to behold the ruins of this once flourishing and extensive cantonment. There are very few of the buildings in any kind of order. The timber and rafters of the roofs are stated to have been taken away to Deesa to construct the European barracks at the Camp there. The plough has been at work in the lines, and fields of wheat were observed in every direction amongst the ruins and rubbish of the old buildings. There are several enclosed burial grounds here, all going rapidly to decay. There is probably no place that so forcibly reminds one of the fleeting nature of sublunary things than a view of the present dilapidated state of this once flourishing military station. It was first fixed upon as the frontier station in Guzerat about 1805 : a Cutcherry and Adawlut were established here, and a Brigade of Cavalry and Infantry; Barracks, Hospitals, and accommodations for Officers, were built at a vast expense—a Church was likewise completed about the year 1825. The causes of its abandonment were several, the principal being the great unhealthiness of the cantonment, and the consequent unusual mortality amongst the European Troops. H. M. 17th Dragoons were first removed to this place in 1812 from Surat, at which period the place bore the character of being one of the most salubrious stations in Guzerat. This Regiment remained until relieved by H. M. 4th Light Dragoons. But the great mortality amongst the troops, the removal of the frontier to a more healthy station on the Bunnass river near the town of Deesa, bordering on the Great N. W. Desert, and the transfer of the Troops to Kirkee near Poona, subsequent to the capture of the latter place, occasioned Kaira to be neglected and allowed to fall to ruin. At present the only corps here is the Guzerat Provincial Battalion, commanded by Captain Troward, about 400 strong.

Thursday, 10th.—While here, visited a mulberry plantation on the banks of the Siree near the bridge, consisting of about 800 trees, which appears to thrive uncommonly well. Dr Burn, the Civil Surgeon of the station, deserves great commendation for the ardour with which he enters into every plan calculated to improve the resources of the country, by teaching the natives the mode of cultivating these trees and rearing the silk worms. Saw several baskets of worms in various stages of growth, which appeared in a thriving healthy state. Dr Burn informed us that Government allow him Rupees forty per month towards defraying the expences of the concern, which has lately been increased

to Rupees eighty. He has induced several neighbouring Grassias to try the cultivation of the mulberry, and expects to meet with no difficulties in obtaining natives to undertake the various departments of growing the mulberry, rearing the silk worm, and winding the silk, provided sufficient encouragement be held out to them. Dr Burn is also a collector of coins and antiquities: he very politely invited us to his house to inspect them, but circumstances did not permit of our availing ourselves of his kindness, which was much regretted. Dr Burn was so fortunate as to obtain two setts of copper plates, with ancient Inscriptions on them in a character precisely similar to that met with in the Cave Temples of Kanary in Salsette, Elephanta, Karlie, and Ellora. A fac simile of one was sent round to Mr. Prinsep, late Secretary to the Asiatic Society in Calcutta, by whose key it was deciphered, and found to be a Grant of Land to Brahmins, dated in the 3rd Century, at Ketakapoora. This seems to have been the ancient name of Kaira—Ketaka being the Sanscrit name of the Pandanus Odoratissimus-Valgo-Kewrah; whence Kairah. This important discovery establishes—1st, the identity of the Character prevalent in the third Century of our Era, over a considerable portion of India; 2nd, that the Brahmanical and Buddhist religions were both at that period in existence; and 3rd, that the Town of Kaira is one of the most ancient in Guzerat. The Translation, Dr. B. further informed us, is published in the last number of the Calcutta Journal of Science.

Friday, 11*th*.—There are several native christians here, the fruits of the joint labors of Mr. E. B. Mills, formerly Collector here, and Mr. Fyvie, one of the Missionaries at Surat. Of those who were baptised is Peter, now a Ghorawalla in the service of the Assistant Judge here; Rajah, at Dharwar, in the service of Mr. Mills now at Dharwar; four in the service of Mr. E. H. Briggs, 1st Assistant Collector, at present gone to Bombay sick; Balloo, who died a short time since, and lies buried in the burial ground appropriated for them by Mr. Mills; Khooma Dosee, a poor old widow woman, who supports herself by her own labour; and their families. They appear to live in peace and quietness among themselves, and with their heathen neighbours. We had heard reports prejudicial to their consistency and walk, but which on further enquiry proved groundless.

Saturday, 12*th*.—Rose early and took a walk to the Mulberry Garden. Saw a Persian Wheel which Dr. B. had endeavoured to get the Natives to substitute for their leather Coss, but which, after repeated trials, was not found to answer. The trees at this season look dry and parched, being the time of the fall of the leaf: they stand in rows about twelve feet distant from each other, with one single upright stem to the height of three or four feet, from which several long straight branches issue at various angles of inclination, giving a handsome circular head to the plant, which, when in full foliage, must appear lux-

uriantly beautiful; they are manured with dry cow-dung, and watered in the hot season two or three times a week. The well is situated within 100 yards of the River, and a subterraneous communication lets the water in at all seasons. Dr. B. purposes extending his plantation next year. Saw the Senna plant (Cassia Senna,) which thrives very luxuriantly. These were raised from Mocha seed, but differed not in the least, Dr. B. says, from the indigenous plant. Dr. B. has also succeeded in making Colocynth, and asserts that any quantity might be manufactured, the plant from which it is made being procurable by cart loads in the immediate neighbourhood: specimens have been sent to the Bombay Medical Board and approved of. In the afternoon accompanied Mr. F. on a pastoral visit to the native christians: found their houses and persons clean; they had two copies of the Guzerattee Translation of the Bible; they say they live in harmony and peace with each other, and observe Sunday. Tom's wife looked ill; she had an infant at the breast: his eldest son is baptised. Felt much interested in these poor people.

Monday, 14*th*.—Rose at four, got ready and set off for Lalee about 5 A. M.; reached Lalee at 7 A. M. and changed horses. Started for Ahmedabad, which we reached about 11 o'clock. Saw Hemabhy Vukutchund, the Head Shroff and Merchant of the place. He recognized me at once; and in the course of conversation informed me of his having erected Iron re-pack Cotton Screws, in partnership with another Soucar of Ahmedabad, at Gogo, but, for want of employment, the outlay of near 50,000 Rupees was almost a dead loss to him. It is a pity such praiseworthy exertions should be so little encouraged.

Wednesday, 16*th*.—Visited Hemabhy's Jain's Temple, under ground; also the Jumma Musjid and the one English and two Guzerattee Schools. Saw the Kinkob Manufactory, and passed by the old Dutch Factory, now occupied by Mr. Talbot of the Civil Service. Dr. Cunningham, of this place, has succeeded in making Raw Silk from Worms of his own rearing.—Dr. Johnstone has likewise commenced a plantation of Mulberry Trees in the Heera Baug, and mentioned his intention to extend their cultivation.

Sunday, 20*th*.—Visited the Shahee Baug on the way. It has been greatly altered since I last saw it, by the late Mr. James Williams, of the Civil Service—two entire wings added, and several other rooms and terraces built; how far this alteration is an improvement is very doubtful, it having entirely changed the character of the building.

Monday, 21*st*.—Left Camp at daybreak this morning and proceeded to Hursole to breakfast. Visited the Adauleje Well, seven coss from Ahmedabad. It is certainly a most magnificent structure, well meriting being seen. An inscription on a marble slab states it to have been built in the Sumvut year 1555 (A. D. 1499)—in the reign of

Mahmoud Rajah Begurrah, who then ruled the province, at a cost of 5,01,000 Rupees. The water is good, and there appears to be an abundant supply. Reached Kullole about 10 o'clock. The country is of a more undulating surface than we have yet met with. Saw numerous herds of cattle feeding, said to have come from the westward. At 3 P. M. proceeded on to Kurree, where we arrived about 7 P. M. Passed through a fine open country abounding with kirnee and mango trees. Noticed tracts of soil covered with salt earth, but could not ascertain that the Runn ever communicated with this part of Guzerat, from which it is distant fifty or sixty coss. It most probably is a collection of Soda on the surface, with which natives manufacture a coarse kind of soap; they term it Oos, and the lands thus covered they call Khar. This is the coldest day we have yet experienced. Dined late; retired to rest at midnight.

Tuesday, 22nd.—At 11 visited Jeejeebah, the Ameen Zamindar of Kurree, who entertained us with vocal music by three singing men, after which proceeded to the Fort and saw the Palace of Mulharow, once the ruler of this part of the country, whose town was taken by a part of the British Army in 1802 in conjunction with the Guicowar Troops. This place being all in ruins, it is unsafe to proceed without caution amongst them. The spot (a kind of Cage Tower) was shewn us where Mulharow used to sit and watch the movements of his foes, till a few cannon balls being brought to strike the building he quickly decamped, thinking, with old Falstaff, "discretion to be the better part of valour." It is a strange confused mass of buildings, with very confused staircases, narrowing as you advance towards the summits. Kurree is but a modern town, not above 200 years old, with a population at present of twenty to 25,000 houses. It is surrounded with a brick wall much out of repair. The Fort walls are pretty good. Saw likewise Mulharow's Artillery, from the largest 22 pounder to the smallest swivel—none in good order, several of the carriages much out of repair. Left Kurree at 3 P. M. The Country still undulating. After a ride of two or three miles saw the Hills of Edurwarra in the N. E. quarter—rather a pleasing contrast to the continuous plains of Guzerat proper. Reached camp at Jeytanna about dark; weather still very cold—no thermometer in camp.

Report on the Mijjertheyn Tribe of Somallies, inhabiting the district forming the North-East point of Africa. By Lieutenant C. J. CRUTTENDEN, I. N.

[Presented by Government.]

THE Mijjertheyn * Somallies inhabit the tract of country extending

* Mijjertheyn means "the beloved one."

from the small port of Bunder Tegadah on the northern coast, to Seef Taweel, a flat belt of land in latitude 6° 30′ N. and Longitude 48° 40′ E. (Owen) on the eastern side of Africa, where they are bounded by the Haweea Tribe. The Province of Murreyhan forms their limit to the south, and the warlike Tribes of the Dulbahaute and Wursungeli * mark their western boundary.

The country, generally speaking, is composed of continuous limestone ranges, mostly running E. S. E. and W. N. W., and varying in altitude from 1500 to 6000 feet. In some parts, especially at Bunder Murayah, the mountains, near their summits, are almost entirely composed of pure white marble, from the naked sheets of which may be seen the "Luban" or Frankincense tree, growing without any visible means of nourishment, or any apparent fissure in the rock to support its roots.

The valleys between these ranges are uniformly well wooded with mimosas and acacias, and exhibit, in the rugged water-courses that intersect them, strong proofs of occasional heavy torrents from the Hills. An ample supply of pasturage for the flocks is afforded by these valleys during the N. E. Monsoon, but during the hot months they are alike destitute of water and grass.

On the extreme eastern point of Africa, a tract of sandy country extends about nine miles to the north of the range of Jerd Hafoon (commonly Guardafui,) forming the promontory of Ras Asseyr, which is a limestone bluff, pependicular on its northern face, and gradually sloping away to the southward. A few stunted bushes scattered over the sand hills, somewhat relieve the eye, and after a few showers of rain sufficient grass springs up to support a few half-starved goats and sheep. During an excursion that I made up the Jerd Hafoon range, I found the frankincense and gum Arabic growing at a very trifling elevation above the sea, certainly not more than 400 feet. At 1500 feet the dragon's blood tree was found exactly similar to that of Socotra; and on the summit of the table land, aloes in abundance, with the gum tragacanth, &c.

The Tribe apparently know little or nothing of their origin, : their traditions, indeed, give their descent from the noble Arab family of Hashem, whose grandson, Jabarti bin Ismail, being obliged to flee from his own country, was wrecked on this coast, and falling in with a fisherman of the Haweea Tribe, married his daughter, who, with her father, embraced the religion of Islam. Their descendants gradually expelled the original tenants of the country, and eventually became masters of the soil.

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* Wursungeli means "the bringers of good news."

In speaking of their country they frequently give it the name of "Darroud," which was one of the names of Jabarti bin Ismail; and some two or three houses still exist in Mecca which the Mijjertheyn affect to consider as peculiarly belonging to the pilgrims from their Tribe, on account of their having been erected by their great Arab forefathers.

They repel with scorn the supposition that they were probably at one time a branch of the Galla, but always speak with great complacency of their Arab descent, especially dwelling upon their early acceptance of the tenets of Islam.

This is the only Somallie Tribe that I have met with who acknowledge the name of Sultan; and though some years have elapsed since the days when one man governed the entire country, still the title has descended in the direct line of the eldest son down to its present possessor, a lad of eleven years of age.

As in Arabia, so in this country, the people may be divided into two classes, viz. those who reside at the different bunders, and employ themselves in trade with India and the Red Sea, and the Bedouin part of the population, whose only wealth consists in their horses, camels, sheep, &c., and the gums which their mountains produce so abundantly.

Regarding the townspeople, they are precisely the same as the town Arab—the worse specimens of the Tribe. Intolerant (from ignorance) in their religion, avaricious to excess, and (if possible) equalling the Dunkali Tribe at Tajoora in duplicity and falsehood, they lead a life of utter indolence—their only care being to get a good price for their gums, which the more industrious Bedouin brings them from the mountains, and which are carried for them to the Red Sea and Indian markets in bugalas navigated chiefly by Arabs.

We had many opportunities of seeing and judging of this class during our protracted stay on this coast at the wreck of the *Memnon*, and every one, I think I can safely say, was more or less deceived.

Though many of them are men of considerable property, they live in the coarsest manner possible; a little jowari bread and a few dates form their common food, varied occasionally by a dish of Mangalore rice; and a piece of salt shark meat is too valuable amongt them to form a common article of foood, but a sheep is generally slaughtered in honor of a guest, who may be reasonably supposed to be able and willing to pay for the same by a return present. In the N. E. monsoon they have a tolerable supply of milk, which forms an agreeable addition to their daily fare. They never smoke, but many chew tobacco to excess, and some of these adopt the Dunkali custom of mixing a small quantity of wood ashes with the leaf to increase its pungency.

The Bedouin portion of the Tribe are strictly a race of shepherds,

with no fixed habitation, and carrying all their worldly goods with them they much resemble the Arab of the Nejd. The number of their flocks is immense, and they form a large moving population, rarely remaining more than three weeks in one place, and regulating their change of pasture so as to leave the table lands untouched until the end of the N. E. monsoon or about the middle of February, by which time the grass there has become abundant, and, if a moderate quantity of rain has fallen, sufficient to last them during the hot season, or about the end of November. They are, on an average, a mean-looking race of men, not to be compared with the Somalis to the westward: nor have their women much pretension to beauty. The men, generally speaking, are undersized; of slight but compact make, and the fatigue and privation that they will endure without repining is almost incredible. Nominally Mahomedans, hardly one in thirty can correctly repeat the prescribed formula of daily prayer, and the lucky man who has been taught to read and write, steals from hut to hut with a well-thumbed copy of the Koran slung over his shoulders in a leather beg, a huge wooden ink bottle dangling at his girdle, and a dressed goat's skin to do duty as a prayer carpet. One of these learned individuals whom we met at Tohen was dignified with the title of "Doctor," but with what reason I could not discover.

The Bedouins live almost entirely upon milk, and prefer it to any thing else: so long as they can procure a moderate supply of this article from their flocks, they rarely touch any thing else save when they visit the coast. Rice, jowar, and dates, are imported in large quantities from India and Arabia, but they rarely use them until the dry season diminishes the quantity of milk. For the same reason, except during the hot season, they are unwilling to part with their flocks, and though we experienced but little difficulty in procuring a sufficient and regular supply of fresh meat, our success, I imagine, ought to be attributed to the magic influence of dollars instead of rice and coarse dungaree cloth, which form the common articles of barter on this coast. As the season advanced, however, even money began to fail to induce the people to sell their fat sheep and goats, and at the time that I am writing this we have been compelled to send a man three days' journey to procure them.

The Bedouins rarely drink coffee, and their reasons are rather good. "If we drink coffee once," say they, "we shall want it again, and where are we to get it from?"

This abstemiousness amongst them, when dependent solely upon their own resources, vanishes as soon as a hearty meal is offered at the expence of any one else, when they will consume an immense quantity of meat, rice, and ghee, on the prudent principle of profiting by the oppor-

tunity; and the man who sells a sheep to a traveller on a journey always considers himself fully entitled to a share of the same.

We made frequent short excursions inland during the operations on the wreck, and were never molested by any of these people, though I should not feel disposed to place entire confidence in them. That they are all arrant thieves we found out certainly to our cost at our camp, where a regular system of plunder went on for a short time. They were all so miserably poor that anything like hospitality could hardly be looked for, but we always experienced civility from them if we approached their huts and entered into conversation with them. A few spoonsful of sugar to the children generally had the effect of bringing out the females of Ghurrea (a place where the shepherd resides,) and in a few minutes we were the best friends in the world. On one occasion a girl was brought who had lost her foot and ancle by the bite of a snake, and who was hopping about with the help of two sticks: on Captain Powell proposing that she should have a wooden leg, and offering to get one made, the crowd of listeners at first were lost in wonder, but when the principle and the advantages of the said wooden leg were explained, their were beyond measure delighted, and declaring that so astonishing a conception never would have entered their thick heads, they begged that the carpenter might be set to work directly. A handsome wooden leg was accordingly made, and, under the superintendence of the surgeon, strapped on properly, but what afterwards became of the young lady I never heard.

Ignorant and simple as these people are, it is not surprising that their jealousy should occasionally have been awakened when they saw a strange people so superior in every way to themselves, wandering about their country without any apparent reason for so doing. Contented as they were with their strong mountains, they naturally felt alarmed at the preference we appeared to shew for them; and the idea that we were about to take the country, was seriously discussed.

I had returned from the Jerd Hafoon range after two or three days' stay there, and where, owing to the heaven rain, I had been compelled to take a tent, and, in company with Captain Powell, was on my way to an assemblage of the Chiefs at a considerable distance from our camp when we were overtaken by a party of Bedouins, of whom one, by name Noor, was a Chief of some importance at Murrayah. Leaning upon his two spears, he in the first place peremptorily ordered us to halt where we were, and proceed no further, which, inasmuch as all our baggage had gone on, we thought proper to decline. With his eyes flashing, and in a towering rage, he then said—"If you are men, we also are men, and therefore it is 'wajib' that we should understand each other; and now I wish to be informed by what right you have built three forts on Jerd Hafoon, and what you mean by wandering over the

country as if you were the owners of it." We told him that any thing he might have to say we should be glad to hear at the end of our day's march, and requested him to follow us; to which, after some demur, he consented. On the road, however, he made some enquiries from one of our followers, which apparently made him heartily ashamed of himself, and on our arrival at the halting place he came into our tent at once, and said that the Bedouins had seen my tent pitched on the Jerd Hafoon range at three different points, and, taking it for a chunamed building, had reported it as such to him. We laughed at him for his folly, and became good friends again.

Though the townspeople affect to despise the Bedouins, and speak of them as a treacherous race, they form the only fighting men in the event of war. Their elders, moreover, are descended from the Sultan, and their voice has sufficient weight at a great national meeting to drown the clamours of the arrogant chiefs who reside on the coast. The name of the Sultan among the Bedouins is highly venerated, and certain customs, handed down from time immemorial, still exist to remind them of the respect due to the family.

A short account of the division of the country will serve to show whence these Bedouins derive their power.

Sultan Mahomed, the last chief who governed the entire country, and whose death took place some 300 years ago, at his death divided the country equally between his three eldest sons, Othman, Esa, and Omar. To Othman was alloted the northern portion, extending from Bunder Ghassim to Ras Hafoon; to Esa the part between the country of Othman and the Wadi Nogal; and to Omar the belt of country from Wadi Nogal to the province of Murreyhan.*

From Esa and Omar spring the Bedouin chiefs whose influence I have just mentioned; whilst the posterity of Othman enjoyed the bunders, and the trade with the opposite coast. From Othman we pass through four generations, which brings us to another Sultan Mohammed, who died twenty-five years ago.

This chief had had six wives, and seventeen sons, of whom twelve are now living. Prior to his death he portioned out his territory amongst his children, alloting a separate village to the sons by each wife, but enjoining them to pay obedience to the authority of his eldest son, who would be his successor. Bunder Murayah became the residence of the Sultan Othman on the death of his father, and the villages of Aloolla, Feeluk, Geyseli, Gursah, and Wurbah, were divided between his bro-

* Murreyhan means "a pompous man"—"a boaster."

thers. Sultan Othman, in conjunction with a Somali merchant named Fatha Abdi, built seven or eight fortified houses at Murayah, and considerably increased the trade of the port.

He died at about the age of 50, and was succeeded by his eldest son Yusuf, who, after a turbulent reign of two years, was treacherously slain by an individual of the Ali Seliman branch of the Mijjertheyn inhabiting Bunder Khor. His only son, a boy of four or five years of age, being too young to be considered of much importance, was dignified with the name of Sultan, which, when he attains to manhood, his great uncles probably will not permit him to enjoy. He is under the guardianship of Noor Othman, his uncle, who has also married his mother, and who, in striving to maintain the importance due to the Sultan, has succeeded in causing a bitter and irreconcileable feud with the other branches of the house of Othman.

To account for the large number of children that are frequently found in one family, it must be borne in mind that polygamy, which, to the extent of four wives, is *tolerated* by the Mahomedan law, is here in a powerful chief considered indispensable. Four wives are therefore married as soon as possible after he arrives at manhood : any wife proving barren, or who has given over bearing, is at once divorced and another substituted. In some cases, especially when a chief has lost several children in battle, a much greater licence is allowed, and the number of wives is unlimited.

I have mentioned that Sultan Mahommud had seventeen sons, but if my information is correct he had also nineteen daughters, who, in accordance with eastern custom, do not "count" as part of the family.

When the Steam Frigate *Memnon* was wrecked on this coast on the 1st August last, the chiefs of Feeluk, Aloolla, and Geyseli, and from their vicinity to the scene of the disaster, were the people who profited most by plunder &c., of which the inhabitants of Bunder Murayah could not partake, owing to their being at a greater distance. Unable to induce their greedy brethren to give them a share, they affected a virtuous spirit, and thanked God they were not robbers of strangers who had been cast away on their coast, and that had they only been there, not even a copper bolt would have been stolen but most carefully preserved until the English came for it. The less scrupulous chiefs of Aloolla and the other villages, perfectly content with their rich booty, laughed to scorn the *disinterested* remonstrances of their brothers at Bunder Murayah ; but, to their great astonishment and chagrin, at the annual meeting that took place at Ghoraul on the Jerd Hafoon range in January last, they were severally fined by the assembled elders and chiefs of the tribe for daring to appropriate to themselves property cast

on the shore by the sea, without the consent of the "Sultan's house," and this fine, which consisted of one horse each, they were obliged to pay.

The Mijjertheyn pride themselves upon being a peaceful nation, and are fond of speaking of their country as "Urd-el-aman"—a title which, when compared with the Edoor Hebrawul and Esa Somalis, they in some measure deserve. Murder is uncommon, and the "Reesh" or ostrich feather in the hair, which to the westward denotes that the wearer has killed a man, is by this Tribe considered both unholy (haram) and unmanly. The fine for murder, if considered unprovoked, is a hundred she camels with young, or a corresponding sum of money. In a case of this kind, the camel is reckoned at a dollar. Blood feuds are infrequent, commutation by fine generally being preferred, and are carefully avoided if possible. During their debates, quarrels almost invariably arise, daggers are brandished, spears poised, and a stranger would expect an immediate conflict, but the old men generally step in and prevent the parties from injuring each other, by taking away their arms, which, after a descent show of reluctance, are given up with much secret satisfaction, as the necessity for fighting "al entrance" is thus avoided. Their arms are two light spears, and a shield of rhinoceros' or bull's hide, with a long straight double-edged dagger. Numbers of the lower class of Bedouins carry a bow and quiver of poisoned arrows; and some few are to be seen with marvellously ill-looking swords. Matchlocks being beyond their reach, they affect to despise as cowardly weapons, that kill from a distance: that very quality, however, considerably enhanced the respect paid to our rifles and double barrelled pistols, and one of the Chiefs was so captivated with a revolving six barrelled pistol belonging to an officer of the *Constance* that he offered him a horse in exchange.

The arrows are tipped with an iron head, just below the barb of which they fasten a black glutinous substance made of the pounded bark of a tree and the white milky juice of one of the cactus (?) tribe, which forms a deadly person. I made many fruitless efforts to procure a specimen of this tree, which grows chiefly in the lofty ranges of the Jibel Wursungeli.

Armed with these tiny weapons, like the bushman of South Africa the Bedouin posts himself in a thick bush near the haunts of the large antelope called here the "Gurnook:" a companion with a camel takes a wide circuit, looking out carefully for game, which, when he sees, he contrives to drive up by degrees towards the ambush, always taking care to keep under the lee of the camel. The antelope, disliking a camel, gradually retreats without being alarmed until within twenty feet of the bush, when the spin of the unerring arrow through the shoulder brings down the quarry, which dies in three minutes. In this

way the Bedouins frequently provide themselves with an abundant supply of fresh meat, many of these antelopes weighing seventy and eighty pounds.

The effect of this poison on a man is the dropping off of his hair and nails, and his speedy death. The deep incisions and scars from burning, that are so common on the limbs of the men, sufficiently attest the dread in which they hold this deadly poison. I tried some of this poison on a young sheep but was unsuccessful, owing, as my Somali friends said, to the poison being affected by the sea air. The instant a man is wounded by an arrow, the part injured is cut out with a dagger and applied to the wound as soon as possible ; and yet when an antelope is killed with one of these arrows they content themselves with merely cutting away that part of the flesh to which the arrow adheres, and which, in the specimen that Captain Powell and I saw, had a deep purple appearance.

Marriage with the men takes place at about eighteen or twenty, and with the women at fourteen to sixteen. A young man of property wishing to marry, and not finding a wife to suit him in his neighbourhood, sends a trusty messenger to another tribe, who selects a fitting maiden and demands her in marriage in the name of his master. If the terms are accepted, the young lady is sent to her future husband's encampment under the escort of the messenger, and on her arrival there is treated with all respect by the family, and her friends and relations are invited to celebrate the marriage feast, which generally lasts seven days. The sum paid to the father of the bride frequently amounts to 150 dollars, given partly in money, and partly in kind. The bride is required to provide mats for the hut and bed, with a few wicker bowls, gaily ornamented with white couries, for milk. Her wedding finery, consisting of a few beads, is contributed by her friends. In the absence of the Cazi, any person who can read the Koran officiates, and frequently, to spare the modesty of the bride, her brother, or some near male relation, acts for her during the ceremony as wakeel or proxy.

In the event of the husband dying, his brother is expected to marry the widow, and by many the obligation is considered so imperative that one of their own wives is divorced to make room for the new comer; and yet, strange to say, marriage between cousins is strictly forbidden amongst these people. Divorces are common, and not considered disgraceful. The triple oath, sworn in the presence of two witnesses, is sufficient, and at the expiration of three months the woman is at liberty to marry again. On the birth of a child the mother is compelled to seclude herself for a period of seven days, after which she resumes her ordinary daily employment. Circumcision takes place at seven years, and they affirm that it was practised before the Hejira, which is most improbable. The duties of the women consist in watching their flocks of sheep

and goats, fetching wood and water, doing all the drudgery. The she camels are under the care of the men entirely, whose only other employment is gathering gums in the hot weather. Great care is required in tending the sheep and goats, on account of the number of cheetahs that prowl about in the neighbourhood : on one of these savage animals being seen, the alarm is instantly given, and the men sally forth well armed to dislodge the intruder; a desperate fight takes place, which ends in the death of the tiger after he has fearfully clawed one or two of his assailants.

Some of the principal Bedouin Chiefs possess upwards of a thousand she camels, which may be valued at two or three dollars each, located in different pastures many days distant from each other, and under the care of one of the wives, and a few followers belonging to the family. They are generally found in droves of fifty to eighty. The sheep and goats in the same manner—a man rarely keeping more than 500 in one place ; and thus the life of the chief is spent in continually wandering from Ghurrea to Ghurrea visiting the different folds, as well as his different wives. The number of sheep and goats exported from the coast, though not one-tenth so great as from Kurrum and Berbera, is still enormous, and not less than 15,000 head per annum ; but the sheep for export generally come from the Wadi Nogal, and the fertile plains bordering on the province of Murreyhan.

They have large droves of horned cattle, the milk of which is almost entirely used for the purpose of making ghee : they are fine animals, and one that we purchased at Ras Asseyr weighed above three hundred pounds.

Horses are abundant amongst them, and highly valued. The best description frequently selling for 150 dollars (in kind.) They are of a small breed, and so villainously treated, that whatever beauty they may have when very young completely disappears by the time they are five years old. To ride violently to your tent three or four times before finally dismounting, is considered a great compliment, and the same ceremony is observed on leaving. Springing into the saddle (if he has one) with two spears and a shield, the Somali Cavalier first endeavours to infuse a little spirit into his half-starved hack by persuading him to accomplish a few plunges and capers, and then, his heels raining a hurricane of blows against the animal's ribs, and occasionally using his spear point as a spur, away he gallops, and after a short circuit, in which he endeavours to show himself off to the best advantage, returns to his starting point at full speed, when the heavy Arab bit "brings up" the blown horse with a shock that half breaks his jaw and fills his mouth with blood.

The affection of the true Arab for his horse is proverbial : the cruelty of the Somali to his, may, I think, be considered equally so.

During the hot season the men and boys are daily employed in collecting gums, which process is carried on as follows.

About the end of February, or the beginning of March, the Bedouins visit all the trees in succession, and make a deep incision in each, peeling off a narrow strip of bark for about five inches below the wound. This is left for a month, when a fresh incision is made in the same place, but deeper. A third month elapses, and the operation is again repeated: after which the gum is supposed to have attained a proper degree of consistency.

The mountain sides are immediately covered with parties of men and boys, who scrape off the large clear globules into one basket, whilst the inferior quality that has run down the tree is packed separately.

The gum when first taken from the tree is very soft, but hardens quickly. The flame is clear and brilliant, and the traveller is frequently amused by seeing a miserable Bedouin family cowering under a wretched hovel, or hole in the rocks, eating their scanty meal by the light of half a dozen frankincense torches. Every fortnight the mountains are visited in this manner, the trees producing larger quantities as the season advances, until the middle of September, when the first shower of rain puts a close to the gathering that year.

On my first arrival here I made many enquiries regarding the quantity of gums annually shipped from the coast for the Red Sea and Indian markets, but the accounts I received were so surprising that I placed no confidence in them. As I became more acquainted with the merchants here, I was able to make more minute enquiries. I first ascertained the number of boats belonging to the tribe, and their owners. I then, by visiting the different ports, found out how many boats had taken cargoes of gums at the opening of the fair season, and by comparing their statement with the different accounts that I got afterwards from the shippers, I was enabled to form a tolerably just estimate, in round numbers, of the large quantity annually exported from this coast; and which export trade is almost entirely in the hands of those never-failing speculators—the Banians of Porebunder and Bombay.

At the close of the N. E. monsoon a party of these Banians arrive on the coast, and settle at Feeluk Geyseli, Bunder Murrayah, Wurbah, and Bunder Khor. The Bedouins from the interior immediately visit them, and as there is no one to compete with them, they manage to engross the greater part of the trade. As the season draws on, the Bedouin finds that his gums are finished, and he is fain to purchase food to last him through the hot weather before the setting in of the grass, on credit; and thus a running account is carried on from year to year, which of course the wary creditor takes care never to settle. The people are

perfectly aware how much they are pillaged, and earnestly hope that some of the ships that they so frequently see passing along their coast might be induced to come in and trade with them. A small vessel might easily do this; but to ensure her cargo being ready for her, an agent must be established on shore. The articles that should be brought for the purpose of barter are rice—both coarse, Mangalore, and Bengal—in gunnies, dates from the Gulf, Surat tobacco, double dungaree and course white American sheeting cloth, with a few Surat blue striped turbans and loongees, and a small quantity of the iron called "Hindiwan." Money, should it also be forthcoming, is preferred—German crowns (without holes in them) being the only coin; though during our stay rupees were often accepted. A vessel arriving at bunder Murrayah about the end of September would be enabled to fill up a cargo of gums in three or four days, if the agent had been moderately diligent during the hot weather.

I annex a list of the boats employed, and the quantity actually shipped in each; and I now offer a rough estimate of the quantity shipped this year, taking the weight of the bohar at ten to the ton. Between the 1st September 1843 to the 1st March 1844, the quantity of gums exported was as follows:—

To Bombay	3770	bohars.
,, the Red sea	2350	,,
,, the Arab coast	1200	,,
Total	7320	bohars,
which, at ten to the ton, gives	732	tons.

The season of 1843 was considered as very unfavorable, owing to the drought, and the crop of gums not more than half the average quantity; and I was assured that three years ago the export exceeded 20,000 bohars, but taking every thing into consideration, I think from 900 to 1000 tons may be set down as a fair estimate.

The trees that produce the Luban or Frankincense are of two kinds, viz. the luban meyeti, and luban bedowi. Of these, the meyeti, which grows out of the naked rock, is the most valuable, and when clean picked and of good quality, it is sold by the merchants on the coast for one and a quarter dollars per frasila of twenty pounds. The luban bedowi, of the best quality, is sold for one dollar per frasila. Of both kinds the palest colour is preferred. The trees vary greatly in height, but I never saw one above twenty feet, with a stem of nine inches diameter. Their form is very graceful, and when springing from a mass of marble on the brink of a precipice, their appearance is especially picturesque.

The gum Arabic, or summuk, is of three kinds, viz. the adad, wadi, and ankokib, of which the ankokib is considered the best. It sells at bunder Murrayah for one and a half dollars per frasila of twenty pounds. The tree is found on the mountain sides in a good red soil, and varies in height from ten to twenty feet.

The inferior qualities of gums of course are sold at a much lower rate, but when it is remembered that the merchant who resides at the bunder purchases two pounds of frankincense for one pound of dates, and one pound of summuk for two pounds of dates, the profits may be easily imagined. For instance, a man purchaces a bag of Muscat dates, weighing 120 pounds, for one and a quarter dollars; with this he purchases twelve frasilas of luban, which he sells to the traders who call for it, at the rate of one frasila per one and a quarter dollars.

Myrrh is brought from Wadi Nogal and from Murreyhan and Agahora: some few trees are found on the mountains at the back of bunder Murrayah about fifty miles from the coast. It is sold at bunder Murrayah, when well picked and clean, for four pounds for a dollar. I sent inland when at bunder Murrayah, and succeeded in getting two specimens of the tree, which is I believe but slightly known.

The quantity of ghee that is brought down for sale is too trifling to merit any remark. It is however singularly clear and good, perfectly free from the disagreeable smell that distinguishes the ghee from that of Kurrachee, though the major part of that originally comes from Berbera. The Banians from Porebunder, who regularly attend the Berbera Fair, carry back immense supplies of ghee for the Indian market, and as the Somalis are celebrated for melting down sheeps' tails and mixing the fat with the ghee, to increase the quantity, the disagreeable odour that attends "ghee, Kurrachee, first sort," may perhaps be accounted for.

Of the countries to the south and west of the Mijjertheyn tribe, nothing is as yet known, and as what little information I have been able to pick up would only swell the mass of *hearsay evidence* that already exists, without establishing any fact, I refrain from making any remark on the rivers &c. that have afforded such field for discussion. Of the practicability of exploring the course of these rivers* I have no doubt, nor should I apprehend any hostility on the part of the natives, if the traveller was only duly attended by a Mijjertheyn chief. Repeated offers were made to me to visit the stream generally called the "Wabi" (Wabi or Webbi, in the Somali language, means a river), and I only regretted that I was unable to do so.

* Since this was written, I have met a gentleman—Mr. Angelo of Zanzibar—who has recently sailed above two hundred miles up the Jub, and suffered no ill-treatment.

A most interesting journey might be made from a few miles south west of Hafoon along the Wadi Nogal to Kurreem on the Berbera coast. In this valley the best kind of myrrh grows, and as the inhabitants are of the Mijjertheyn tribe, no danger need be apprehended.

My principal reason for offering this brief memoir to Government is to point out the advantageous trade that might be carried on with this hitherto imperfectly known country, and I much regret that I was unable, from other duties, to visit the interior. I would wish to make one concluding remark. Though the general character of the Somalis is by no means good, I much doubt if a vessel were wrecked on any other coast inhabited by perfect savages, such as the Mijjertheyn, whether the crew would have fared as well as those of the steam Frigate *Memnon*. During a residence of six months amongst them we experienced no opposition, and were finally allowed to quit the coast on our own terms, and in perfect friendship with all.

(Signed) C. J. CRUTTENDEN,
Lieutenant, Assistant Political Agent, Aden.

Number of Boats laden with Gums during the Season of 1843, *and their Owners.*

TO BOMBAY.

Rabea bin Salem	700
Lalla	600
Mahri	600
Kyeti	300
Ali Myjee	500
Ayal Rocknah	300
Sheakhan	300
Aial Farha Hersee	270
One name unknown	200
	3,770

TO THE RED SEA.

Shermarkhi	800
Bon Saloom	250
Adthuja bin Ahmed	200
Doongoorna	200
Several small vessels	700
	2,150

To the Arab coast.

Vessels—owners residing at Shahr and Maculla.. 1,200

Grand Total..... 7,120 bohars,

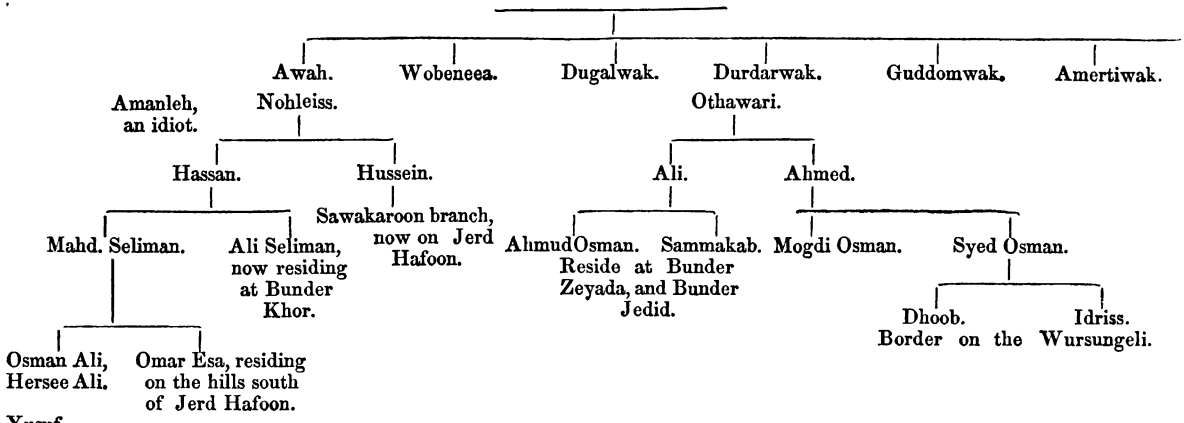
which, at ten to a ton, gives..... ... . 712 tons of gums.

List of Boats owned by the Mijjertheyn Tribe.

Aloolla.....	2	boats—	1 Ali Yoosuf, 1 Esa Fyah.
Geyseli..	1	boat,	Esa Dohel.
Gursah	1	,,	Shermarkhi Fyah.
Murrayah	1	,,	Fathi Abdi.
Bunder Khor	1	,,	Farha Kersee.
Bunder Baad...	1	,,	Abdulla Farha.
Bunder Gassim... ...	1	,,	Ahmed Shabhah.
Bunder Zeyada 4	1	,,	Shermarkhi.
	1	,,	Abdi Ali.
	1	,,	Mohammed Woorsuma.
	1	,,	Naleyah bin Beker.

(Signed) C. J. Cruttenden.

SULTAUN MIJJERTHEYN.



Yusuf.
Mohammud.
Otheman.
Yusuf

Mohammud, who died twenty-five years ago, leaving seventeen sons.

Osman.	Omer.	Esa.	Ahraali.	Summutter.	Shermarkhi.	Gooled.	Farah.	Nahleya.	Yusuf.	Wurfah.	Weiss.	Ali.	Noor	Sherwah.	Ahmed.	Gooled.
D.		D.	D.													

Yusuf

Mohammood, 11 years old, who is the rightful sovereign of the country from Bunder Zeendah to the south of Hafoon.

Note D. means that this son is dead.

(Signed) C. J. CRUTTENDEN, *Assistant Political Agent, Aden.*
(True Copies.) (Signed) S. B. HAINES, *Captain, Political Agent, Aden.*
(True Copies) (Signed) E. H. TOWNSEND, *Secretary to Government.*

Observations on the Runn. By Captain G. FULLJAMES.—*With a rough Sketch of the Camp at Casba, on the north side of the Large Runn.*

[Communicated by the Author.]

I WAS on out-post at the village of Soeegaum, on the east side of the Large Runn, and on the morning of the 22nd of March 1843, just as the sun rose, and as I was riding along a sand ridge looking in the direction of the Nuggur Parkur Hill, which is usually to be seen morning and evening, I observed something white near the south end of the hill, and immediately dismounted and took my telescope, when I discovered what appeared to me to be two large Tents at some distance apart, with a small tent close to the tent on the right.

The distance between the place where I stood and what appeared to be tents on the opposite side of the Runn, according to my map is from thirty five to forty miles, and is reckoned by the Natives at twenty to thirty cos. The Nurra Beit, an Island in the Runn, lay to the north of the object I saw. On reaching my tents I wrote a letter to Captain Munro, who commanded the post of Casba, the place where I supposed the tents to be, and told him what I had observed: he kindly forwarded me in reply a rough sketch of his Camp at Casba, from which it appears the objects I saw must have been two Subedars' houses, which are whitewashed, and the small tent must have been a row of Sepoys' routees. A copy of the rough sketch I beg to enclose.

We had heavy winds and rain on the 12th, 14th, 18th, and 21st; and on the 22nd March 1843, a violent wind and dust storm. There was a very dark cloud in the eastern sky as the sun rose, on the morning of the 22nd, when I observed the object above referred to.

Captain Munro and myself afterwards endeavoured to signal each other by means of large fires; and at a given time on a certain night, we lighted large fires on either side of the runn, but we both failed to discern each other's fire; though a detachment of my men that I had on the Nurra Beit reported to me that they had seen both fires distinctly.

I have often before observed extraordinary objects on the Runn, but then they usually appeared inverted, but it was not so on this occasion; nor was I able on any other morning, during the six weeks I remained there, to discern the object again, though I frequently looked for it.

Ahmedabad, 6th April, 1844. GEO. FULLJAMES.

Account of Collection of Geological Specimens for presentation to the Museum of the Bombay Asiatic Society; and of an Inscription from an ancient Jain Temple situated at the Falls of the Gutpurba, about three miles southwest of Gokauk, in the Belgaum Collectorate.
By Lieut. C. P. RIGBY, 16th Regt. N. I.

[Communicated by the Author.]

To the Secretary to the Bombay Geographical Society.

SIR,—I herewith send you a small collection of Geological Specimens—chiefly slate, granite, horneblende, and sandstone—for presentation to the Museum of the Asiatic Society. They were collected in the districts near Bejapoor, and during a hasty journey through the Southern Mahratta Country. Some of these districts present most interesting Geological formations, fine slate and granite of every variety being found in extensive beds. The slate is found principally in the districts to the east of Bejapoor; to the south a formation of red granite extends for a considerable distance, and is succeeded by plains of red ferruginous soil, which extend over the greater part of the Southern Mahratta Country. In some of these districts the iron manufactured is almost sufficient to supply the demand, and might be increased to any extent. Talikotta, situated in the south eastern corner of the Sholapoor Collectorate, bordering on the Nizam's Dominions, possesses a great variety of slates and granites, and from the neighbourhood of this place most of the accompanying specimens were collected. It is the Jagheer of the Rastia family, who also possess eight villages in the neighbourhood, producing altogether a revenue of about 20,000 rupees a year. It is a large town, surrounded with a substantial stone-wall and round towers in good condition. A considerable quantity of cotton cloth is manufactured there, and it contains about one hundred families of Mussulman weavers and dyers. The town has been much enlarged within the last few years, and a stone wall built encircling the new quarter, which is also divided by a wall from the old town. It is built on an extensive bed of very fine clay slate, which is found of every variety of colour: scarcely any trouble appears requisite in quarrying it. The town and villages in the neighbourhood are entirely built of it: the wealthier class of inhabitants have their houses built entirely of one coloured slate, some of purple, blue, or very light coloured. Some of the houses are also roofed with large slabs of it, and the great variety of colours gives the town a very pretty appearance. Hornestone trap rises in large irregular blocks in many parts of the town, and, being very hard, no efforts appear to have been made to remove the obstruction they cause in the streets.

Limestone, of a very fine hard grain, is found also around Talikotta, and would, I have no doubt, be found to answer well for Lithographic stones. This place is also famous in Mahratta History as the site of

the great battle fought in 1564 (corresponding with the Sal. year 1486) between the confederated Mahommedan Princes of the Deccan and the great Hindoo King of Bejanuggur—Rama Rayaloo, who had assumed the title of Sovereign Lord of the whole Deccan. The King Rama Rayaloo was slain in this battle. His son, Tirmul Rayaloo, fled towards Chendrageery, but afterwards returned to Bejanuggur, and built a Palace at Anagoondee, on the opposite bank of the Kistna, and which place he had made his capital. This Palace was burnt by Tippoo Sultan in 1786. In an account given of this battle by Col. Mackenzie from enquiries made at Bejanuggur and Anagoonde, this battle is stated to have been fought at a place called Rachasa Jungada, and that it lasted thirty-eight days. Grant Duff calls the place where it was fought Rakshitta Gundee; no mention is made of Talikotta, which is about sixteen miles north of the Kistna.

Another peculiar feature in these districts is the Doon river, which, taking its rise near Jutt, about thirty miles west of Bejapoor, flows in a south easterly direction, and, passing the walls of Talikotta, falls into the Kistna about twenty-five miles beyond. Its water is so bitter and salt that no animal, unless accustomed to it, will touch it; though, strange to say, the people who live in its neighbourhood drink its water simply filtered through sand, and it appears to produce no bad effect. I have brought some of the water of this river to Bombay, and Dr. Giraud has kindly undertaken to analyze it: the soil on its banks is throughout the richest description of black, and produces most luxuriant crops: at Talikotta even during the hot season it is a large stream, and excellent fish are procured from it.

The specimens of sandstone were procured from the Gokauk hills in the Southern Mahratta Country. The country south of the Kistna towards Belgaum is almost wholly composed of red sandstone and red ferruginous claystone, with plains of rich black soil intervening.

Bombay, September 10th, 1844. C. P. Rigby.

The accompanying is the copy of part of an Inscription from "an ancient Jain Temple situated at the Falls of the Gutpurba, about three miles southwest of Gokauk, in the Belgaum Collectorate." It is in the ancient Canarese or Jain character: some of the letters are the same as those used in the modern Canarese and Telingee languages: the ದೆ dĕ; ರೆ rĕ; ನೆ nĕ; ಮೆ mĕ; ಯೆ yĕ; ಜೆ jĕ, and their compound formations, may be easily recognized; but many of the letters appear totally different from those used in the modern Canarese, and I believe no one hitherto has succeeded in deciphering inscriptions in this character. By comparing this with copies of the inscriptions in the Nassuck and Salsette Caves, many of the characters appear similar The original from which this is taken, is very long, but the lower part

is so effaced as to be now quite illegible; the two upper lines are in larger characters, and more carefully carved, than the rest of the inscription. The temple from which it is taken is very ancient, and by far the finest specimen of Jain architecture I have met with: it is most elaborately carved all over the outside, and is built of a fine hard sandstone of which the surrounding range of hills is principally composed; but is now, in common with most of the ancient Jain Temples in this part, converted into a Lingarit Temple, and is much resorted to as a place of pilgrimage by the people of all the surrounding country.

Inscriptions in this character are very common amongst the ruins of Temples all over Carnatica, and the villages of the Bejapoor districts, and, could they be deciphered, would doubtless add greatly to our knowledge of the ancient history of Southern India: the natives call these inscriptions lipi, signifying writing in general; or hullee, ancient Canarese. The plan I adopted in copying this, was by first damping the stone, and then placing on the sheets of writing paper also wetted; then by pressing the latter all over with the hand the letters became visible and were easily traced on the back of the paper: this method will be found very simple and expeditious, and, if carefully done, the copy will be a facsimile of the original.

August 20th, 1844. C. P. RIGBY.

Accounts of Adam's Bridge, and Ramiseram Temple, with a Map of the said Temple, from actual measurement by some of the Surveying Officers of the Indian Navy.

[Communicated by Lieut. W. CHRISTOPHER, I. N.]

ADAM'S BRIDGE.

I THINK the Bridge is likely to interest the scientific: however, little can be said of it except in a general way, with a few remarks on its probable formation.

The survey of the northern side commenced in June, that is when the southwest monsoons set in with strength. There was much surf on the windward part, and a strong rush of current through the various openings between the sandbanks. The soundings of the northern side of Ramiseram Island were first taken. Some detached rocks were met with off the broadest part of the Island in three fathoms water: the line of five fathoms would carry a vessel near enough to distinguish the land marks, and at the same time clear of all danger: with the Great Temple S. W. by W. half a mile, a bed of oysters was discovered accidentally, the anchor and cable of one of the Tenders coming up covered with young ones, but they were almost too small to determine their nature. The Shark fishery is pursued here by boats from Kelicurry and other parts, but not to any extent. In speak-

ing of the Bridge, it may be as well to premise that Ramiseram Island is based on sandstone, which rises occasionally in hills from fifty to seventy feet high, which can be traced through the body of the Island, and was met with also a little below the surface near the large Temple, which no doubt rests on a stratum of the same stone. A long sand spit extends towards Adam's Bridge from Ramiseram Island for about ten miles before the water at "Tunnicodi" affects an opening through it, though in some parts of the ten miles the land is scarcely regained from the sea, it being partially overflowed in the northeast monsoon when the press of water is on the northern coast, or in to the "Pamber bay," as this side might, with propriety, be called.

The highest hills of loose sand that I have ever met with are on the eastern side of Ramiseram, the sand being particularly fine and carried about in showers during high winds, yet the sand heaps reach a height of forty or fifty feet, perhaps more. These heaps of fine sand are only met with in a circumscribed spot, at what might be styled the termination of the "old" part of the Island of Ramiseram, and the commencement of the sandy extension of it. They are formed, probably, by the absorption of all moisture from the coral sand thrown up by the constant action of the surf, which leaves the smaller particles free to be acted on by the force of the wind, and they are carried away to add to the bulk of the hills. The surface of the sandhills presents just the appearance of waves of water: no flagstaff could stand in it; the eddy wind round the pole used to lay the staves bare for two feet down, and the fastenings of the tension ropes were uncovered in a few hours. The sand mounds, which appear to be on the earliest formed portion of the sand projection from Ramiseram Island, abruptly decrease in height, the remaining part of the land extending to the bridge being but two or three feet above the sea's level, with mounds of six or eight feet here and there: the whole is destitute of any vegetation, but salt water shrubs thinly scattered. The Bridge (contrary to the expectation of all on board) is composed entirely of fine sand with a small mixture of broken shells: there is no gravel or quartz sand met with, that commonly seen in the beds of rivers having their sources in neighbouring granite mountains. From the point of Ramiseram to that near Manaar Island is a distance of twenty miles; between them there is a succession of ten or twelve low sand banks of greater or less extent, and five channels or ruts, occasionally used by native boats. The strong currents to which the whole range of the bridge is exposed must considerably affect the depths of the channels and disposition of the sands at different times of the year, but we have noticed trading boats of fifty or seventy tons, drawing five feet water, pass through in the month of March, without any hesitation, not even waiting to send a boat ahead to sound, which argues some permanence of depth in particular places. The surf hindered us in our survey of the bridge, and these passages were not

sounded, the boats of the vessels not being able to pass through them without great risk. In Cordiner's time there was a space of ten miles, without any appearance of land, in the centre of the bridge; now the sands though low are above water, certainly every mile of the distance between the shores, and having myself landed in at least twelve places during the survey, I should think that the banks never wholly submerge, the extensive flats off them receiving the force of the surf. Drift wood is met with on the banks of the bridge; one piece, a crooked branch of teak, had a sharp flint deeply imbedded in it, I suppose by dashing down from the hills somewhere. It came from the Bay of Bengal—at least its position would indicate so. As a curious fact, it may be mentioned that one of the spars of the ship "*Protector*," wrecked on the Sandheads, was washed on shore at Ramiseram: my informant, the officer in charge of the Pamber operations, felt assured of the reality of the occurrence, the spar having been identified. Palho bay is shallow throughout; the Gulf of Manaar is bottomless until within twenty miles of the shore. Adam's Bridge is formed no doubt by the wash of the former, and as the coral insect is pretty active there, in making the water yield a solid substance, time, that mighty changer, may connect Ceylon and India again, as tradition informs us they were before.

MANAAR.—In speaking of Manaar, it may interest to know that it is based on blue sea mud, not rock as Ramiseram is, and covered with brabs and cocoanut, inhabited, almost exclusively, by Roman Catholics. A few Moormen, who speculate in the pearl-fishery, either by personally engaging as divers, or in the markets of Condateky, congregate in a retired village on this Island to pass the remainder of the year until the return of the season. A high brick pillar, with internal spiral steps for ascending, testifies to the existence of a larger community of them some time back: this pillar is removed three miles from all dwellings, overlooking well cultivated lands of cotton, jowary, and palms, with a shed here and there for a watcher in the open grounds: it no doubt was a Moslem's munarh or minaret, as indeed they visit it with religious feelings and ceremonies at the present day.

To return to the survey of Adam's Bridge in a professional way. As we were there in the first of the southwest winds, we had hazy weather, and difficult work: landing on the lee side even was found at times impossible, from the rush of the current in the shallow water when near the banks. The excellent canoes we met with at Manaar subsequently would have saved us several days, and have well paid their hire, or even purchase; hours were always taken up in effecting a landing, which in the middle of the day are of much value.

Between Manaar Island and Ceylon, there is a considerable space at high water, amounting to two miles and a half, the deep channel passing close; the Fort on the Island having a width of 200 yards, the remainder

of the space is very shallow, drying in many parts at low water spring tides. The Causeway which the present Governor of Ceylon has projected, is to extend quite across this flat, thereby confining the passage for the tides and current to the deep rut washing the Fort wall. From this spot as a centre the channel winds very much in communicating with the northern sea, but presents itself in one bed, whereas on the south it throws off a branch about midway between the Fort and the outlet: both of these have shallow bars of three or four feet at high water. As the vellard spoken of must affect these entrances, it was suggested to close up one and endeavour to lead the water down parallel to the coast fifteen miles as far as Aripo.

ARIPO.—There is now a back water some distance along at Aripo: the coast is protected by coral reefs in the offing, and it was supposed that the absence of surf and swell would leave a deep channel, permanent if once dredged. The channel on the bridge side of Manaar Island has one deep entrance, its southern mouth; but an extensive flat of three and four feet on its northern. The south bar has eight and nine at high water. This is attributed, or rather appears to be caused by the stream from the north, after rounding the west end of Manaar Island, taking a bend to the eastward and running a short distance parallel with the beach, being confined by a bank of sand several feet above the water at a few hundred yards from the Island, and in consequence of the surf not meeting direct, the force of the stream, which is turned by the sandbank referred to, the sand held in suspension is distributed over a wider space, as the water gradually by diffusion loses its velocity, the roll and tumble of the southerly swell being of the sideling course of the current in some degree evaded, and the south entrance is permanently deeper than any other about the bridge. To secure a slanting embrasure for a stream conveyed or influenced by artificial means, digging should be a primary object, that is, the current should not be brought out meeting the swell and roll of the ocean, but at right angles to it, running in the trough of the swell as it were.

TEMPLE OF RAMISERAM.

THE peculiar structure of the Pagoda of the Plains of India, as distinguished from the Cave Temples of the Dekhun, is very fairly shewn in the extensive flat-roofed Temple of Ramiseram. The South of India has its full share of religious edifices, and as the palaces of its Rajas are in a great measure imitations of the style followed in their pagodas and choultries, there must be, from such repeated opportunities, some room for the discovery of talent: however, the characteristic flat roof of the Brahminical buildings perhaps heightens the difficulty of an artist in giving a good effect to his designs.

These are all carried in processions. The jewellery is very rough, and not valuable: the strings of pearls are perhaps of the best kind, and there are a large number of them; golden birds, with jewelled wings, and other fanciful forms for depositing money in, were an evidence of the devotion and liberality of the rich. The whole assemblage is valued at Rupees 50,000 only. The well known custom of presenting a boat in the pearl fishery season of Ceylon to several famous Temples, supplied the pearls to this. The present Governor of Ceylon, after enquiring, has, I believe, determined on discontinuing the custom, finding it to be without warrant, and when coming from the labor of Roman Catholics, as the divers principally are, a very questionable offering. The Revenue of this Temple, derived from villages appropriated by the Rajah of the province of Ramnaad to its support, was lately in great confusion: the Collector interfered, checked embezzlement, and by reduced expenditure relieved the temple from a load of debt incurred through the avarice of the last Pandaram or superior of the temple, who, by the bye, it is well known among other austerities is bound to live in celibacy. The plan of the Ramiseram pagoda will hardly be seen without strikingly reminding a person of the temple of Jerusalem in its court, entrance, sanctum, &c.

RAMISERAM VILLAGE.—In the village there are two large Tanks near to one another, of about five hundred feet square, each with flights of stone steps on all sides leading down to the water, the depth being twenty-five to thirty-six feet. In their centres small elegant pavilions are raised: one is most beautiful in its ornaments and proportions, being a pagoda spire with a covered court around, the roofing being profusely ornamented with various animals carved in stone, and supported by pillars of the neatest workmanship; and were it not for the tawney natives bathing near, I could almost have fancied myself gazing on a classic retreat, surrounded by a lake, in a more genial clime. The pavilions are for placing the idols in when their uncouth majesties take an airing on the water.

The following notes may serve as data for companions hereafter: they were translated from a Tamil memorandum by a young Hindoo educated at Madras:—

In the Town of Ramiseram there are

Brahmins' dwellings	250
Houses, all castes	950
Retail Bazaar Shops	20
Chowkies for distributing alms to pilgrims.	20
Chowkies for affording shelter only	17
Population of Brahmins	1,130
Other castes	5,200
Boats, passage and trading	16

The third or outer cloister cost 5,43,000 Rupees, but is not finished yet in the painting and ornamental sculptures. They number three tanks and twelve wells of holy water in the inner enclosures called Teerum. They have five idol cars with the usual obscenities figured on them (teyroo.) The lamps nightly lit are five thousand.

There are five yearly festivals or carnivals held in February, April, June, July, and August, the one commemorating the marriage of the God and Goddess Rama and Letchimy. The July one is the grandest. Two hundred Brahmins are employed daily in temple duties, and three hundred persons as servants. The annual income my informant said was 50,000 Rupees, and the expenditure somewhat less. They have two elephants to assist in processions: a horse, and also a peacock, are among the dedicated animals. The water of Tunnicodi is represented as possessing every virtue—imparting immorality, purity of mind, &c. The Tunnicodi, or simply "Water-point" in English, is the extreme of Ramiseram Island first met in former times, before the Pamber channel was burst open in 1442. The junction of rivers is peculiarly holy, as we well know; and perhaps the same feeling has led to the performance of worship at this place, though I cannot recall any other instance just now where the meetings of two seas is regarded in that light. It may be remarked of the larger Pagoda, that it is entirly built of standstone, the largest slabs being about eighteen feet long by two and a half square: the high towers over the principal entrances are exceptions, being raised from the foundation with small oblong bricks, or bars of Madrepore rock, with beams of wood laid horizontally at intervals. The eastern one is an immense pile, and does not appear to have been finished, wanting the crowning ornaments of the summit: it is remarkable as being divided into buildings, one third down from the top, in this particular resembling the Propylon of Edfoo at Thebes: the whole structure, indeed, its use and appearance, are nearly similar. I can only conclude with a remark that I have heard from persons whose office brings them in connection with the managers of the Temple revenues, that the very name of the most famous Pagodas would pass away and be forgotten if the Salt of English character and principle was not the ingredient of their preservation. And on reflection, a system that has enjoyed so long a reign, and such an undisturbed sway, over myriads of men, ought to have some results to fall back on as it were; if not, it has had its trial; and why should we, with a purer faith, and superior knowledge, regret its decline?

Continuation of Desultory Notes and Observations, on various places in Guzerat and Western India. By JOHN VAUPELL, Esq.

[Communicated by the Author.]

(*Continued from page* 111.)

BASSEIN.—The Island of Bassein is from ten to twelve miles long, and from four to six broad; it is separated from the main-land by a narrow channel which connects the Bassein and Duntoora creeks, running nearly North and South, and over which two bridges are thrown. The Island is low and flat, and the soil is rich, chiefly laid out in Plantain and Sugar-cane gardens, in which rice is also grown, and the *Pan* (*Piper Betle,*) which is an article of universal use, and general exportation. When Bassein was taken from the Portuguese by the Peishwa Mahdowrow, it was established as a *Sir Soobah*, and was the chief place or Capital in the extensive tract of country from the Bankote river on the South to the Mahals which lie immediately North of Damaun. The Portuguese Government had been the means of expelling from this neighbourhood most of the higher class of Hindoos, who were not permitted by that intolerant Government openly to perform their heathen ceremonies. To remedy this defect, the Peishwa offered the greatest encouragement to Brahmins and Purvoes of other districts who would come and settle here; lands were granted free, both for building and cultivation, and the place was soon as thickly peopled with the higher Castes as his Highness could desire. There is accordingly a greater medley of Castes here than in most up-country places. Banians and other traders flocked in from Guzerat. Brahmins in abundance from the Southern Konkan and the Deccan. The Portuguese seem to have left the place entirely when they could no longer hold out against the Mahrattas, and excepting the Fort itself, and the numerous ruined Churches, and other religious buildings, which it contains, there are few vestiges of a Christian Government, excepting the Native Christians, who are to be found here in abundance, and the few ruinous Churches, which are still in *use*, in different parts of the Town, and occasionally a Cross at a place where roads meet. The Native Christians are generally very poor, ignorant, and drunken; they are mostly Gardeners or Carpenters. When rich enough to possess any clothes, they are of a half European cut. Their language among themselves is bad Mahratta: their Clergymen or Padres affect to talk Portuguese, and some even know a word or two of Latin: but their ideas, as well as their education, color, and birth, are entirely Native. The Hindoos affect to consider these people as mere *polluted Hindoos*, and a tax was instituted by the Mahratta Government for the support of Brahmins, whose occupation was to purify these people previous to their reception into their former Caste. I do not believe that very many were re-con-

verted in this manner, though since our Government an attempt at extension of prerogative on the part of the Priest, tempted a great number to declare themselves no longer within the pale of the Church, and these people continue to be considered a separate Caste of Hindoos. It was the policy of the Roman Catholics to have a great *many half* Christians, rather than a few *whole* : they accordingly gave admittance to many Hindoo superstitions ; they celebrated Mass with firing of guns and fireworks, and used *tom tom* and other native music, to make the change the more imperceptible : they were, as they said, all things to all men. The present Christians are a singular instance of this : they believe in all Hindoo ideas of enchantments, of being seized with devils, and of the power which almost any man possesses of plaguing his enemies with sickness, or even death ; and many people have been murdered in Bassein, merely because they were supposed to possess this extraordinary power over the lives and fortunes of their neighbours. The town of Bassein, called generally Bajeepoora, has the chief bazaar in the Mahal ; the shops are mostly held by Guzerattee Banians : there are a few poor Mussulmans. The Brahmins chiefly inhabit the village of Papree, which is about a cannon shot from Bajeepoora ; here are the homes of some natives, persons who in the late Government held high situations, and many of whom still enjoy pensions from Government. Among the Brahmins, the Chitpawun or Concany, is perhaps the most numerous : there are also Deshust, or Deccany, Goojerattee, &c. The Pulshey and Panchkulshey Castes also are numerous here, who call themselves Brahmins, but who (especially the latter, who are generally carpenters by profession) are much looked down upon by the Brahmins. The next Caste of consequence is that of the Kayusth Purvoes. On the first establishment of our Government, when the Brahmins (who were so enthusiastic as daily to expect the return of Bajeerow, and the overthrow of the English) refused service, the Purvoes gladly accepted it, and they have thus obtained an ascendancy in the Northern Concan which they have not yet lost. The Purvoes are accused of eating meat ; this they stoutly deny, but I believe the charge is well founded : one of them confessed to me, that his whole family daily feasted on goat's flesh, but he affected that *he* abstained from such a degradation. There is endless rivalry and animosity between the Purvoes and Brahmins. There are Sonars, Kansars, &c., here, sufficiently numerous ; but in Bassein most articles, whether of use, wear, or consumption, are imported from Bombay. Bassein plantains are procurable in Bombay cheaper than in the gardens in which they are produced, so that there is a general dulness of trade in this once important place. The Coolies or fishermen are numerous in the villages of Moolgaon, Kowlar, &c. These people all understand Mahratta, but among themselves they talk a gibberish which even the higher caste natives do not understand unless they are initiated.

Their diet is fish: they drink freely, and they are sure to suffer m in a season of cholera. They are dirty in their houses, and very subject to cutaneous diseases. The Mahrattas are also pretty numerous here: they are sometimes sepoys or peons, sometimes servants in the houses of rich natives, sometimes landholders. The Mahrattas are a low caste, and come under the division of Soodras: they have, however, several sub-divisions, and the highest of these call themselves the military class, ever since the accession of the Rajahs of Sattara and Kolapoor, who are of their caste. Under this general head comes that of the Koolumbees, who are generally the actual cultivators of fields—people who live from hand to mouth, and are generally allowed by their masters one half of the produce of the land which they till. The Island contains two Mahals of Bassein, consisting of eighteen villages; that of Manikpoora which consists of six, and Agasee of twelve. Agasee is the northern extremity, situated on the Duntoora Creek; it is probably the largest town on the Island. Sopara is also a large place in the Agasee mahal, and contains a considerable Mussulman population, as well as Christian and Hindoo; but the most celebrated place is Nirmul, sometimes Vimul. Here there is a *Yattra* yearly, which is well attended by *Pilgrims*; there is also a celebrated Pagoda, which is endowed by Government; and an *Unnachutti* or storehouse, in which grain is kept for the support of *poor Brahmins* who come that way, and which is also very largely endowed. The whole place is under the Goroo Shunker Acharia Swamee, a person who is looked up to something in the light of a Pope, who lives in the Deccan, but occasionally visits Nirmul and the rest of the Concan, to keep up his authority if necessary, and collect fines and money given in charity, and to settle disputes about caste. Nirmul is situated on about the centre of the island: all the land about is rich, and chiefly laid out in gardens; brab and cocoanut tress are numerous. Here there is also a population partly Christian partly Hindoo. There is also a church and a padre, who however told me that the faith was suffering of late years, in consequence of the heathens; that the ministers were poor and the churches beggarly; "and (said he) how can it be expected that ministers will reside in a place where the compensation is so small?" At Agasee there is also a church and a clergyman; and a large Christian as well as Hindoo population. Both here and at Sopara there is a good deal of trade: grain, salt, and garden produce, are exported to Guzerat and Bombay, and timber imported. Very good fishing boats and country vessels are built here. There is here a good deal of Goozeratee spoken by the Banians, the *Koomars* (or potters,) the *Peiduls* (or Masons—a Portuguese word,) and the Beldars—or stone-cutters, most of which class are emigrants from the northward. The Mahratta is however the prevailing language, and is understood by most, if not all, of these. About Agasee there is a good deal of rice cultivated, and the Mahrattas and

Kolumbees are accordingly more numerous than in Bassein. In Agasee there is a considerable Brahmin population, but the manners of the people seem very corrupt ; they are notorious thieves, and, like all the others, are great liars. As far as Government are concerned, there is more fraud carried on in this Mahal, than in any of the surrounding ones, though perhaps its immediate neighbour Sagwan is not far behind it in this respect.

This neighbourhood is considered healthy at all seasons : from the Duntoora creek however, north, I do not exactly know how far, is called the Kinker country, and is considered by the natives unhealthy. On the coast however, as far as Damaun, I do not think there is any danger to Europeans, but the inland Mahals of the Sunjan Talooka, the whole of the Kolwun Talookas of Mahim, the Mahals of Koze, Munore, and Poulbary, and in Bassein the Mahal of Doogar, are dangerous from August till the end of December or January, and during these months a large part of the population of these districts suffer from a low fever, which generallly goes off in the spring months. From February till May, these inland parts are very hot, but more healthy perhaps than those immediately on the sea ; the water at least is better, and the nights are cooler. In the Mahals far from the sea, the Brahmin population is scarce, and Christians are not to be found ; and as the land is poorer, and the jungle thicker, the people are wilder, blacker, more ignorant, more poor, and if possible more drunken, than those on the coast. Here a person who can write is a prodigy, and few of them could tell the amount of the fields which they cultivate, or the assessment that they pay yearly to Government. In Kolwun, the Kathowries or Katkurries are numerous ; they are perhaps the most wild and uncivilized of all the classes : of a deep black, they wear long uncombed hair, and look more like monkies than any race of men that I ever saw. This district was during the late Government a nest of robbers and other outlaws, and its numerous mountains were held as fortifications by its inhabitants, who are said generally to have made their stand good against the forces that were sent to subdue them. No difficulty was however experienced by the English troops in taking possession of this tract of country, and it is now safe for travellers, and not often disturbed by robbers. The Jowar Raja, himself of this low class, obtained a tract of country in Kolwun. By way of ensuring his obedience, and that of the numerous banditti over whom he had established himself as a sort of leader, he continued at a subsequent period to enlarge his territories very considerably, but these were retaken from him by the Peishwa, and he now holds the small barren tract in the heart of Kolwun, of which he was in possession when we obtained this Zillah in 1817. The size and population of the villages, and more especially their wealth, decrease

in proportion to their distance from the Sea ; on the Coast and in the richer Mahals, towns are to be found whose revenues are from ten to fifteen thousand Rupees : in the jungle Mahals, five hundred is a large town, and from fifty down to five are not uncommon. In the Sunjan Talooka, which is the most northerly, Parsees are pretty numerous. They deal largely in Toddy, which they sell in Bombay at an enormous profit. They are disliked and feared by the Natives. They talk Guzerattee, and to the north of Tarrapoor this language is perhaps as much spoken as the Mahratta.

From Bassein to Mahim is generally considered a distance of twelve coss, or twenty-four miles : the Duntoora creek, however, which intervenes, and which is about three miles broad, is a considerable cause of delay to travellers. To the north of this the country has a much wilder and more barren aspect than on the Bassein island. About the villages immediately on the Sea Coast, there is some garden cultivation, but inland little is to be seen but forests of brab trees, and the villages are more distant from each other, and large tracts of land lie waste ; that which is cultivated, chiefly produces rice. Mahim is a large town, with extensive gardens ; the population chiefly Hindoo. Two miles to the South is the village of Kelwee, which is also a populous place ; and about the same distance to the North is that of Sirgaon, in which there are many poor Mussulmans, and a large proportion of the *Warwal* (or gardener) caste.

The Mahim Talooka extends on the Coast from the Duntoora to the Sautputtee creek, which is about five miles north from Mahim. Thence to Damaun, a distance of sixty miles, the Sunjan (or St. John) Talooka extends. The Chief towns north of Mahim are Chinchnee and Tarrapoor, Danoo, Oomergaon, and St. John. In these towns there are fewer Brahmins and Christians than to the Southward. Parsees and Guzerattee Mussulmans, and Hindoos of every caste, are more numerous. Garden cultivation is scarce ; a great part of the country lies waste, and the prospect is bounded by brab and date trees.

A RAMBLE IN SALSETTE.

Monday, 8th May.—Left home about 4 P. M., after a light dinner, on a ramble in Salsette, in search of a suitable spot for a Sugar Cane plantation, &c. &c. Got into a horn-grey coach, with bag and baggage, and drove through the little town of Bandora. Came to the Tank, which, though shallow, and at this season containing but little water, is pleasantly situated by the road side, and affords to the weary traveller the luxuries of a grateful shade under the noble trees which line its banks, and of quenching his and his cattle's thirst. The space cover-

ed with water was easily discernible, from the dense foliage of the large rose-colored water lily, whose leaves, resting on its glassy surface in luxuriant profusion, were adorned at intervals by the handsome flowers protruding on their gracefully waving footstalks: thus adding to the variety, freshness, and beauty, of the scene even at this parched season of the year. I pity the man who can travel from Dan to Beersheba, and say "all is barren." At every turn, the attentive observer sees something either to gratify the taste or call forth sentiments of gratitude and praise to the Creator. The Christian can look up to the vaulted heavens, or abroad on earth, and read in Nature's book the vast variety of objects presented to his view, all bearing the impress of their mighty Maker—all evidencing the truth of revealed religion. To these the humble Christian can turn his attention, and say, with feelings the envious worldling can never know, all these has my Heavenly Father made! has called out of nothing into being: all these are standing evidences that "He is a rewarder of them that diligently seek Him." But to return. Our Auriga having watered his cattle, we started afresh and paced it merrily along; passing through the little hamlet of Kharr, where a couple of stone crosses, by the road side, bearing the remains of the colored paper and tinsel decorations, the sport of the evening breeze, with which the village swains had recently celebrated the festival of the Invention of the Cross (an invention, by the way, which the Romish Church find it as profitable to keep up as it was easy to originate,) indicated the class of inhabitants it contained.

We now came to an open plain, expanding to some extent, to the left of the road, and overflowed periodically by the tides. Through this plain the high road to Gorehbunder passes. A few scattered *Peeloos* (*Salvadora Persica,*) to the right served as an agreeable contrast to the otherwise barren vista; but even here, the provident hand of Nature finds work for the industry of man, and rewards his exertions in the shape of a species of Madrepore, found by digging a few feet from the surface, of which, on combustion, a good kind of chunam (lime) is manufactured; five pice a cart-load is not much certainly, but a diligent workman may fill two carts in a day, and gain his ordinary wages of ten pice. A mile further on, brought us to some stone quarries in the plain, from which a soft kind of sandstone rock, which hardens after exposure to the air, is excavated, and turned to many useful purposes: chiefly however for constructing handmills of a large size, used for separating the husk from rice. We were told that a good mill, consisting of the upper and nether millstone, would ordinarily sell for Rupees two and a half to three Rupees, but that they ranged from Rupees one and a half to five Rupees according to quality, and the pains taken to finish them. Several workmen were engaged

quarrying. Heaps of the chipped stones and shingles lined the road on each side, for a considerable distance, preparatory to mending it on the first fall of the annual rains. Proceeding further we crossed a wooden bridge, thrown over a mountain torrent, supported on stone buttresses: it seems sadly out of repair. We now entered a more fertile and picturesque country. Those artists who have introduced groups of trees into rustic and garden scenery, have certainly hit upon the right taste, for it is a true imitation of nature. The clumps of mangoe, curunje, and other trees, which adorned both sides of the road for a considerable distance, added to the undulating and increasing hilly aspect, were very gratifying. Where does there exist a garden that presents such grand features, both of ornament and scenery, as one of Nature's own planting? The ever-varying landscape, bounded in the distance by the high land of Kenery, added to the grateful and pleasing variety of tints of green exhibited by most trees now putting on their vernal robes for the ensuing year, left nothing to be wished for in this species of enjoyment. To add to the pleasures of the evening the humble but brilliant scarlet *Ixora*, justly termed by the venerable Rumphius, *Flamma Sylvarum*, lined the road side. The only other plant noticed to be in bloom was the lilac-coloured and fragrant Dalbergia Karunji, from the seeds of which an oil is expressed. The carunda bushes, as usual at this season, were laden with fruit. As the shades of evening began to fall, the heated air became cooler, and a gentle breeze from the Ocean rendered the weather pleasant and refreshing. The only drawback was the roughness of the road, which increasing as we proceeded, caused the seat in a vehicle without springs to be any thing but easy. We progressed without meeting anything further worth notice, (save a wile-away story from a travelling companion) till we arrived at our resting place for the night—being a Hall of Charity (Dhurrumsala) built for the accommodation of wayfaring men, by a rich Parsee merchant of Bombay (C. C., Esq.) The teller of the story was a grey-headed old man, who having weathered sixty monsoons, still preserves sufficient stamina for a daily walk to Bombay from Mahim and back again; he had the whitest and most complete set of masticators *of his own*, any Sexagenarian could wish to boast of, and only complained of a slight dimness of vision, which prevents his threading a needle without the aid of glasses, he being by profession a knight of that useful implement. He began his tale—which, by the way, the dusky shades of night recalled to his remembrance—by saying: "Some twenty years "ago when in the service of General C., I was directed to make a "purchase of several thousands of cadjans for roofing a house; but "before they could be delivered, the General was called away, on im-"portant duty, from the Presidency, and the purchase thrown unex-"pectedly upon my hands. What was I to do, being a poor man? "The damage, coming between sixty and seventy rupees, was more

" than I could afford to lose. Understanding some one at Panwell " required such an article, I posted off across the harbour, through the " rising surges of the S. W. Westerly gale, and reached Panwell at " midnight. Having found out my customer, he readily agreed to take " the bargain off my hands, provided I had no objection to an order " on Poona for the amount: this was more than I had bargained for, " but as my host continued firm, there was no remedy but submission. " Away I started, therefore, next day, and reached that far-famed " capital, without accident by the way. Obtaining cash for the order, " for convenience sake I changed it into gold, and retraced my " steps with all speed. I had not proceeded far when by some " mishap I lost the way, without knowing it. Towards the dusk " of the evening I observed I was closely followed by two wild-looking " women, with dishevelled hair, and suspicious looks. On enquiring " my route, they said they were travelling the same way, and informed " me I had come six coss out of the direct road. They guided me " to a village, where we passed the night; but stated the place to " be a den of robbers, and begged I would take them under my pro- " tection:—to say the truth, I was more afraid of them than of any " one else, knowing, if they found out that I had treasure by me, they " would probably have taken my life to obtain it. Seeking the pro- " tection of God, the night passed away without harm. Next day, " by dint of hard travelling, and without a halt, we found ourselves " again at Panwell, where only I felt somewhat at ease. It being near " midnight the ferry boat was on the point of starting, when, without " bidding adieu to any one, and my female companions having dis- " appeared, I got once more on board, and after buffeting with a rough " sea for the remainder of the night, and narrowly escaping foundering, " by sunrise we landed safe in Bombay; therefore, friend cartman " (addressing our driver,) never place any confidence in strange faces " while travelling, especially at dusk, and if you happen to have any " thing valuable about your person, by all means keep your own " counsel, as you value your life." After a refreshing dish of tea without milk, and commending our souls and bodies to Him who gave them, our pains and pleasures were forgot in sound repose.

Tuesday, 9th May.—Rose with the early dawn, and after morning devotions, I mounted my tattoo, and proceeded to Manpesir. Nothing particular occurred to attract notice on the road, save now and then the wild woodland note of the Indian Cuckoo (koel) came dropping on the ear from the woods which skirt the base of the hills. The morning was serene and cool, the road not over-dusty, the country on each side of the way a level plain to a considerable distance, the principal tree growing on which was the babool or gum arabic tree—a pretty good indication of the poor quality of the soil. By 8 o'clock

we reached the ruins of Manpesir Church and College, the approach to which was agreeably variegated by groups of trees and shrubby vegetation, and by the nullah of Dhynsur, over which there is a substantial bridge, and which, though dry at this season, must be a pretty large stream during the rains. The banks on both sides, for a considerable distance, appeared lined with trees, indicative of the superior fertility of the ground: the soil hereabouts, though intersected with stony patches, appears good; and with a sufficient command of water, might be turned to good account; all the good land, and most fertile vallies and plains, seem to be in the hands of Parsees. The descendants of Dady Ardaseer possess seven villages with their lands, the head of which is Mullar, where the steward (a knowing Purvoe) resides. The whole range of hills, with their woods and forests, as far as the parallel of Dhynsur, including the Keneri cave hills, belong to this family; so that actually but a very small portion of the Island remains for selection: on what tenure they hold this extensive portion of Salsette, is uncertain, but supposed to be farmed to their ancestors in Governor Duncan's time. The remainder of the fertile part is portioned out between Cursetjee Cowasjee, Esq., and Luximon Hurrichundjee, Purvoe; so that a European Colonist stands but an indifferent chance of succeeding, surrounded by so many more powerful and richer rivals. They do not appear to make the most of the land, except a small portion laid out in the culture of paddy, and the produce of the palm-trees in toddy and for thatch; two-thirds are permitted to run to waste. There are several secluded and fertile vallies, which would well reward the labour of cultivating them; but who would wish to labour in places where the whim of caprice of the landholder is one's only tenure, or to join in the exclamation of the Mantuan Bard—

"*Vos non vobis mellificates apes.*"

The ruins of Manpesir consist of a large church and tower, dedicated to N. S. de Conceicaõ, and a quadrangular court adjoining, the stone arches of which are in a good state of preservation. The church contains one noble stone arch of fifty feet span near the entrance, a carved baptismal font sufficiently large for pedo-immersion, and a figure of the Virgin as large as life, standing on the altar: below there are a dead Christ, without arms, and the Virgin-mother supporting a dead Christ, all in wood. From the expression of the countenances of these figures, which excels any thing of the kind I have ever seen, they would seem to be of European workmanship. Over the altar, the arched roof is inlaid with richly carved work, in square compartments. Adjoining the quadrangular building there are several others of various sizes, intended, probably, for Students' apartments and the residence of the venerable Jesuitical professors: these are terminated at the north end by an hermite or chapel of ease. From the wall of this hermitary, a gentleman (Mr. J. Forbes) met his death some years ago. He it seems

imprudently climbed the wall at a corner with his boots on, where the roots of a peepul tree served as a ladder: he got safely to the top, and after sitting for a while on the wall admiring the surrounding prospect, in the act of rising, it is supposed, part of the crumbling wall giving way under his feet, he slipped, and was precipitated into the court of the temple below, a height of between sixty and seventy feet. He never spoke afterwards, but was carried home to Bombay senseless, and died the same evening. The fatal spot was pointed out to me by a Patell of the neighbouring village of Dhynsur, who was at the place watering his cattle when the gentleman fell. He did not see him fall, but heard the noise of his coming in contact with the ground, when, turning round, he saw him lying, and blood streaming from his head, on which, it appears, he pitched: he gave the alarm immediately, when the other gentlemen of the party forthwith came to his assistance, and though medical aid was at hand, it was of no avail;—so true it is that "in the midst of life we are in death; of whom may me seek for succour, but of Thee oh Lord, who for our sins art justly displeased." The College is raised over an ancient Hindoo temple, carved out of the solid rock, which is still in pretty good preservation: it consists of one long room, supported upon pillars, and one room on each side, except the east, facing which is the entrance. The northernmost room is the largest, and in the best order; it appears as if lately fitted up for some one's residence: on the south is the tank, or well of water, which is delicious, and refreshingly cool. I could not find out whether it proceeded from a spring, or was the collection of last rains. Over the door of the College is an inscription in Portuguese, with the arms of Portugal above it, purporting that the erection was made in 1623, by order of the Infant Dom. John III. of Portugal, as an appendage to the Church N. S. de Conceicaõ. On a hill adjoining to the south stands the tower, built of a circular form, with a dome about twenty feet high; the platform has a parapet wall running round, and the shaft below contains several chambers in its circumference, for soldiers: it appears to have been a watch-tower. Gorebunder, Bassein Fort, and Dharvy point, were clearly seen from the top, and Sion Fort is discernible in a clear day without difficulty. After examining the remains of an old garden, built by the river side, from which it was watered, and seeing the pool of water in the bed of the rivulet, we returned to Poynseer to roost for the night.

Wednesday, 10th May.—Rose at 4 A. M. and set out for the Caves of Keneri, situated in an easterly direction about five or six miles. As we approached the hills we entered a noble forest of palm trees, covering a large expanse of ground as far as the eye could reach: there was something truly enchanting in the view of this noble assemblage of

stately columns of Nature's planting; each tree rearing its lofty head, terminating with a tuft of large lively green fan-shaped leaves, representing a Corinthian pillar, with its ornamented capital, was in itself no mean object. The vast number scattered over the plain added to the solemnity of the scene; while the great variety of tones, deepened by the echo, and mellowed by the mildness of the morning, proceeding from the feathered choristers of the woods, as they greeted with their orisons the return of day, gave no small zest to the enjoyments of the moment. The woodmen were already at work, and the sound of the axe portended the fall of some noble inhabitants of the forest, whose spoils were about to be added to the overflowing coffers of their wealthy proprietors. As we approached the caves, the cocks of the mountain hamlets welcomed us with their cheering call: though not a human being was to be seen, it was pleasing to find even these wild forests were not without inhabitants. We met a solitary deer, which, though fired at by an attendant, got off; at which I was not sorry. We got to the caves by 8 o'clock, and visited the grove of lovely Asocas, in their sequestered retreat near the mountain top, at this season in full bloom;—returned to breakfast at King the Pirate's cave. The rest of the morning passed in exploring the environs. These caves have been so often and so well described, that it would be superfluous to say more about them than that next to Salts, the account of Anquetil du Perron, in his Discours Preliminaire to the Zend-a Vusta, is the most accurate and full I have met with. The piles of loose stones over this cave, and at several other points, have often puzzled me; they are evidently subsequent erections, and for a temporary purpose. They appear most probably to be intended for cannon batteries, and were, perhaps, constructed for defence by the European rovers who took up their abode here in the commencement of last century. The only names I could decipher were the following, cut in the rock on the wall of the verandah of this cave between the entrances:—

J. Hammer,
1697.
Wm. Tomson,
97 (on a Pillar.)
Wasse.
King,
1710.

W. Aislabie.
E. Baker,
1708.
P. Orberry,
1735.
Douce Dickinson,
1705.

On the breast of the image, in the recess on the left—

H. King,
1715 (doubtful)
or
1705.

There were several other names, which baffled my endeavours to make them out. There were the profiles of several countenances, evidently European, cut out on the rock, one with a beard and pointed cap, the costume of those days ; but this last may be imaginary. The attitudes of many of the figures in the Durbar cave seemed particularly graceful : the drapery appears so well imitated that, at first sight, you forget it is cut in the solid rock ; there is " much of a muchness" in the expression of features, but all of a mild pleasing nature. It is singular, amidst all the variety of figures, there is nothing in any one cave obscene or "*contra bonas mores*" to be met with ; the only thing is the exposure of the breasts of the female figures, that can be considered reprehensible by modern refinement. About 4 P. M. we set out on our return to our place of rest, which we reached by sunset, without any material adventure by the way.

Thursday, 11*th May*.—Rose with the dawn and set out in a southerly direction for Aup Warrah, near to which we were informed there was another Asoca (Ionesia Asoca R.) grove. This place is distant from Painseer, south west, about five miles, and two miles and a half east of Mullar. It is nothing but an assemblage of three or four huts, and a long cattle-shed, on an elevated hillock ; below which a fertile sequestered valley extends north and south for some distance : the south end is enclosed by an amphitheatre of hills, while the west is bounded by a barren rocky hill of a rounded form at one end, and gradually sloping off to the north. The prevailing description of rock abounding in this vicinity, seemed to be basalt—a pretty sure indication of the existence, at some remote period, of volcanoes not far distant. The landlord of the Warrah came forth to welcome us to his sequestered retreat. He is a Concanist Brahmin, a native of Bankote, and has been in his present residence about ten months ; he purchased the Warrah and forty head of cattle for 500 Rupees. He has cleared away a good deal of jungle, and is converting it into arable land. Shortly after his first arrival, a tiger sprang upon and carried off a cow, close to his shed, since when, several parties of the Tannah Rangers and gentlemen have destroyed between ten and a dozen tigers of different sizes (who harboured in the valley and neighbourhood) : and as the clearing away the shrubs and underwood is progressing daily, not a tiger or other wild beast has been heard of or seen for some months past. The Brahmin raises paddy and naglee on his cleared lands, and derives no inconsiderable profit from the products of the adjoining forests. Leaves of the wild plantain, which grow on the rocks in great abundance, are sent to Bombay, where they are used by Parsees and Banians as platters to eat off : bamboos, tatties, wild mangoes for pickle, &c. &c. In the afternoon the Brahmin conducted me to the brow of the hill in his vicinity, and on the way, pointed out several pucka built dams or bunds thrown across the nullah that skirts his property to the east, with stone sluice gates in

them to admit or exclude the water, as the abundance or scarcity of the supply, from the monsoon rains may render necessary. We passed through a dense jungle which overhangs and adorns the banks of a mountain torrent, whose dry rocky bed we ascended to its source near the top of the mountain. About half way up the hill there appears to be a fall of twenty-five or thirty feet, whence in the rains a cascade of some beauty must descend somewhat precipitously. The average breadth of the bed of the nullah is ten to fifteen yards; the ascent at about an angle of forty-five degrees with the horizon. After leaving the nullah, we came to a thick, dense, bamboo jungle, which continued all the way to the top of the mountain. The ascent though laborious, was fully repaid by the noble view from the summit. Bombay, Bassein, Tannah, lay as it were under our feet, and though the haze in the weather prevented an extended view sea-ward, still we could clearly discern the mountains of the Concan, rising pile upon pile one over the other in endless ridges. There is something indescribably elevating in the contemplation of Nature's works in her solemn grandeur; the mind rises with pleasurable awe and emotion to the Great Creator, and one fancies that HE can be more acceptably worshipped in such spots than elsewhere: this, though a delusion, easily accounts for the propensity to groves and hill altars, so manifest amongst heathen nations from time immemorial. About sunset we returned home. This neighbourhood promises fair for establishing an experimental farm upon, for raising foreign products. The soil is good, water abundant and near the surface, and exposure to the saliferous breezes from the west completely defended by the surrounding hills.

Friday, 26th May.—Set off over the hills in a north easterly direction, for a second visit to the caves, by a nearer road than the former. The path, impracticable for any beast of burthen, led over the northern brow of the hill behind Appachi Vara, which we left at daylight this morning. A walk of a couple of miles brought us to the ascent of the mountain, the footpath narrow and rocky, and the hill on both sides covered with bamboo jungle and other low brushwood; the larger trees indicating by the remains of their stumps, having been felled for firewood and other domestic purposes. A mile further brought us to the top of the hill, the view from which towards the west was grand and extensive, but to the east intercepted by the rising of mountains higher than the one on which we stood. We now began to descend rather rapidly, the road being more steep and perpendicular on this side. We bounded along from rock to rock, rather than walked, and on reaching half way down, a little mountain hamlet of about a dozen dwellings burst at once upon the view: it consisted of straw-covered huts, each surrounded with an enclosure containing mangoe, jack, and tamarind trees; with a few gourds trailing

their lengthy stems over the fence and roofs of the huts. They produce the bottle-shaped gourd, used by the Bhundaries or toddy-drawers when they ascend the lofty palm, who suspend it behind by a hook fixed to a leathern waistbelt; it is a species of cucurbita—the lagenaria most probably. We observed heaps of bulbous roots collected within the enclosures, which at first we mistook for onions, but on enquiry they proved to be the bulb of a species of amaryllis or crinum, with white and red striped flowers, very common about the cave hills. They told us they were used medicinally, and taken to Bombay for sale to the Native druggists: they are called bhooi conda. The Thakores could not inform us what their effects were. These hill people seem to be a very pigmy race, differing both in limb and feature from the inhabitants of the plain.* They worship Waghoba, or the Tiger-demon, and have habits and ceremonies peculiar to themselves. The race is pretty extensively scattered over all the hills of the Concan; they approximate most to the Bheels of Candeish and Guzerat, and are probably one of the aboriginal races of India. They set fire to a portion of the jungle a month before the rains, and after the first fall scatter the seeds of naglee, buntee, kodra, and other mountain grains, realizing their crops without much additional trouble. They raise sufficient for home consumption during the year. Besides this they cut firewood and carvees (i. e. tatties) and take them for sale to the nearest market towns. They generally go almost naked, are of very dark skins, and are very poor; their women having only a few brass ornaments, with glass beads and shells, to adorn their persons. They have usually protuberant bellies, and appear a weak and sickly race; owing most probably to the malaria generated by the jungles whereby they are surrounded, and in which they live. The present appears to be the most healthy season of the year; from September to January the jungle fever prevails, which carries off numbers of them. The wild colocynth abounds in this part of Salsette: there is also a sweet kind, which the natives cultivate and use as a vegetable, and which is quite free from the bitter drastic qualities of its wild congener. At half-past seven o'clock we reached the caves somewhat wearied, but well pleased with the morning's walk. After resting during the heat of the day, and admiring for the hundredth time these stupendous works of industry and superstition, we set off about 3 P. M. for Vecar, the road practicable for carts, led by a steep ravine between two hills, which in the rains must be a considerable mountain torent; in a retired spot in the valley was observed a stately Cassia fistula tree in full bloom—the long pendulous racemes covered with vivid yellow blossoms, contrasted with its light green foliage, presents one of the most charming and lovely of natural objects.

* Vide Dr. Wilson's account of this race, published in the "Oriental Christian Spectator."

The juice of the long cylindrical pods of this tree is well known, both to Europeans and Natives, as a useful and mild purgative. A walk of a mile or two brought us to the village of Toolsee, near the road to which was noticed the remains of what had once been a tiger trap : these animals are becoming daily more rare in Salsette, though one is now and then heard of ; the only other wild animals we heard of were deer, monkies, hyænas, jackals and hogs ; the latter are very destructive to plantations : the porcupine and civet cat are occasionally met with, but are very rare. Of game birds, the partridge, quail, peafowl, wild pigeon, and jungle fowl, are met with, and in the rainy and cold seasons, wild duck, teal, snipe, and flamingos, but not in abundance. By sunset we reached Veear, and continuing our route eastward, got to Poway—the well known improved estate and experimental farm of Framjee Cowasjee, Esq.—just as the night set in. It was too late to go over the grounds, or we would no doubt have met with something both interesting and instructive. It were greatly to be wished that other influential and monied Natives would follow the liberal example set by this Parsee gentleman, who has been mainly instrumental in introducing many valuable and useful foreign products into Western India. After some refreshment we took our repose for the night.

Saturday, 27th May.—At daybreak we embarked on a boat in the Tannah Creek, intending to sail round to Gorahbunder by the Tannah and Callian river. As we neared Tannah the hills on either side approach each other and form rather a narrow but picturesque valley. Abreast of the town and fort the rocks in the channel at half tide form rather dangerous rapids, so that the best time of passing is about three quarters or full tide.—Tannah is rather an ancient town. The first mention we find of it is in a grant of land engraved on a Copper plate, found in digging foundations for some new works in the Fort ; and which was forwarded to Sir William Jones, President of the Asiatic Society, by General J. Carnac in February 1787, the father of our late Governor Sir James Carnac. The grant is dated A. D. 1079 (An. Shuk. 939,) at which time a Hindoo Raja named Aricesari-devaraja was sovereign of the city of Tagara (supposed to be the present Deeghur, alias Dowlutabad) and Lord of the Western Sea. He addresses " all who inhabit the city Sri Sthanaca (or the mansion of Lachsmi,) his own kinsman, and others there assembled, &c. &c. Thus he greets all the holy men and others inhabiting the city of *Han Yanana,* &c.* (or the abode of Hanuman, the Monkey God,) after bathing in the Sea, &c. &c., have granted unto him &c. &c., who inhabits the city of Sri Sthanaca &c. &c., the domestic, priest &c. &c.,—Sri Ticcapaiaya, son of Sri Chich'hintapaiya, the astronomer &c. &c., the village of Cha-

* Can this be Kenery ? for monkeys abound in the adjacent woods to this day.

vinara, standing at the extremity of the territory of Vatsaraja, and the boundaries of which are, to the east, the village of Puagamba, (probably Poway village) and a water-fall from a mountain ; to the south, the villages Nagamba, and Muladongarica ; to the west, the river Sambarapalica ; to the north, the villages of Sambive and Cabyalaca ; and besides this, the full (district) of Tocabala Pallica, the boundaries of which are to the east, Sidabali ; to the south, the river Mothala ; to the west, Cacadeva, Hallapalica, and Badaviraka ; to the North, Talavali, Pallica, and also the village of Aulcuja, the boundaries of which are to the east, Tadaya ; to the south, Gavini ; to the West, Charica ; to the north, Calibalayacholi, &c. &c. &c.—As. Reg. I., pp. 363 and 364."

It appears from Arrian's Periplus, that on the arrival of the Greeks into the Deckan, above 2,000 years ago, Tagara abovementioned was the Metropolis of a large district called Ariaca ; which comprehended the greatest part of Subah Aurungabad, and the Southern part of the Concan ; for the Northern part of that district, including Damaun, Callian, the Island of Salsette, Bombay, &c., belonged to the Raja of Larikeh or Lar—an ancient name of the peninsula of Guzerat (see D'Anville's India Antiqua) "who according to Arrian and Ebn Said al Magrebi, &c." In speaking of Tagara, Arrian says that the Greeks were prohibited from landing at Callian and other harbours on that coast. "It may appear astonishing that though the Raja of Tagara was possessed of a large tract on the sea coast, yet all trade was carried on by land."

"Formerly it was not so. On the arrival of the Greeks into the Deccan, goods were brought to Callian near Bombay, and then shipped off. However a Rajah of Larikah or Lar, called Sandanes (Chandan ?) according to Arrian would no longer allow the Greeks to trade either at Callian or at the harbours belonging to him on that coast, except Baroach ; and whenever any of them were found at Callian or in the neighbourhood, they were confined, and sent to Baroach under a strong guard." "Arrian, being a Greek himself, has not thought proper to inform us what could induce the Rajah to behave in this manner to the Greeks ; but his silence is a convincing proof that they had behaved themselves amiss ; and it is likely enough that they had attempted to make a settlement in the Island of Salsette in order to make themselves independent, and facilitate their conquests into the Deccan." Ibid, pp. 374-375.

The first trace and notice of the Island of Bombay is to be found in Ferishta, as translated by Briggs, vol. 4, p. 28, where he says—"In the same year (1428 A. D.) Kootibkhan, the Governor of Mahim, dying —Sultan Ahmed Shah Bahmuny thought this a favorable opportunity

to obtain possession of that Island, which he effected without loss." In a note, Colonel Briggs says—" Bombay.—This Island seems at this time to have consisted of two parts ; the one denominated Mahim, from the village of that name in the N. E. corner, and the other Mumbye, from an idol, &c. &c., which Europeans have corrupted into Bombay." " The separation of the two Islands, (he adds,) would again be complete, if the dam called Breach Candy were removed, which keeps out the Sea from the West face of the Island." Ibid in loc. citat. " Tannah was taken at the same time. Among the articles captured on the Island of Mahim were some beautiful gold and silver embroidered muslins, with which vessels were laden and sent to Ahmedabad." Ibid, p. 30.

" In 1526, during the administration of the Governor Lopo Vas de Sampayo, Mangalore on the Malabar Coast, and the Island of Mahim or Bombay, were taken possession of by the Portuguese." Ibid, p. 27. —" In 1529, Nunho de Cunha succeeded as Governor, and took the cities of Bassein or Bagam, and of Damaun, from Bahadur Shah, King of Guzerat ; and afterwards the stronghold of Diu on the Coast of Kattywar, after a long and memorable *Siege*. Afterwards he concluded peace with Bahadur Shah, whom the Portuguese authors call King of Cambay, which was his chief Seaport. He made a formal cession to them of Bombay, Chawl, Bassein, Damaun, and Diu."—Ibid, p. 28. —" In the year 900, A. H. (says Ferishta,) (A. D. 1494) one Bahadur Geelany, an officer of the Deccan Government, revolted from his Master, collected a force and fleet, and not only seized on the Ports of Goa and Dabul but afterwards landed and took possession of the Island of Mahim (Bombay), giving up the Town to plunder." Vol. IV. p. 71.—" The King Bahadoor (A. D. 1532) shortly after returned to Guzerat to expel the Europeans who had occupied the Island of Diu : upon his approach, however, the enemy fled, leaving their guns upon the Island, one of which was the largest ever before seen in India, and required a machine to be constructed for conveying it to Champanere." Ibid, 123.— Since the aforementioned period Salsette has thrice changed masters. The Portuguese about the middle of the 16th century obtained it from the Moguls ; the Mahrattas in their turn subsequently drove out the Portuguese ; and finally the Mahrattas gave way to the triumphant Banners of Great Britain, which have been proudly waving over the Fortress of Tannah since A. D. 1775. After leaving Tannah you proceed N. E. down several reaches of the river before it joins the Callian River at the base of a remarkably bluff high mountain ; which here seems to rise out of its bed.— After its junction the united streams take a westerly course, and roll along for eight or ten miles till you approach an amphitheatre of hills surrounding a large expanse of water three or four miles in circumference, resembling a lake, into which another arm of the

same river runs from the East from the direction of Bhewndy. The scenery hereabouts is remarkably grand and picturesque ; but to see it to advantage it should be visited in September or October, when the whole space from the mountain tops to the water's edge is covered with dense verdure, amongst which the wild plantain, gracefully waving bamboo, and the great variety of creeping plants with flowers of every hue, are readily discerned. On the Salsette shore of this lake, are the ruins of an old Portuguese Church and Government-House, said to have been erected by the Portuguese rulers of Bassein when in the zenith of their power, as an agreeable and cool retreat, where they could relax occasionally from the monotonous and ever-recurring labors of a town life—as well as admire the beautiful surrounding scenery prepared by the bounteous hand of Nature for their recreation and enjoyment. There are few places in Western India superior to this lovely spot; gentlemen who have visited it, and are competent judges, say it fully comes up to, and reminds them of, the Lakes of Killarney in Ireland, and their adjacent scenery. The waters of this lake find their exit in a narrow Gut, between two ranges of Hills, extending for several miles, till they unite with the head of the Bassein river, abreast of Gorahbunder; the depth of water in the narrows, as they are termed, varies from ten to seventeen fathoms; in the lake five or six fathoms in the centre, is about the average depth. As the tides from the Ocean come up there, it is admirably calculated for a retreat for Invalids and a watering place, where sea-bathing might be securely enjoyed without fear of being annoyed by the monsters of the deep. As an excellent made road runs through Salsette from Bandorah to Gorahbunder, N. and S., the intentions of the late Sir Robert Grant, of connecting Salsette with Bombay, by a causeway or velard at Mahim, and a quay at Ghorahbunder—have not been lost sight of, as the former work is under construction at the sole cost of the munificent public spirited Knight Sir Jamsetjee Jejeebhoy, to whose liberality Western India is indebted for many useful public works.* It is to be hoped that ere long we may have the gratification of beholding a watering place added to the recreations and enjoyments of the Bombay Community. All-engrossing Mahabuleshwur is too far for many persons to go to who have much business to look after, but a drive or ride to Gorahbunder can be performed in a few hours, and a constant communication kept up with Head Quarters : this desirable spot, especially during the heats of April, May, and October, would always afford a pleasant and convenient retreat for the lovers of rural felicity and rational enjoyment. We reached Gorahbunder by 4 P. M., and returned home in a country conveyance, without mishap or accident, much gratified by the week's excursion.

(To be continued.)

* This magnificent causeway has since been completed, at a cost of Rs. 1,80,000, and was opened to the public on 10th June 1845.

Memoir on the Charts of Rhutnageriah, Rajapoor, Viziadroog, and Dewghurr. Drawn up by Lieutenant C. W. MONTRIOU, I. N.

[Presented by Government.]

THE Plans of Rajapoor Bay, and Dewghurr Harbour, are constructed on a scale of four inches to a thousand yards; the others are on half that scale.

From the nature of the country, I was only enabled to measure one Base line on shore, and that of trifling extent, but every care was taken in measuring the bases by sound, the mean of several observations at each base being taken, and the different positions on shore were laid down by the mean of a great number of angles taken at each. The theodolite and sextant being used, the whole of the soundings are laid down geometrically from angles taken with the sextant.*

The mean variation of the compass during our stay on the Coast I found to be 0° 18′ 30″ East: this was in the months of March, April, and May. The weather was very fine, land and sea breezes prevailing, the land wind decreasing in strength as the South West Monsoon approached: occasionally in March we had strong breezes from the N. Wd., attended with a heavy swell, but they did not last long: towards the latter end of May the winds were light and variable, with calms, and dark threatening appearance over the land to the S. Ed., with occasional squalls and rain, with vivid lightning and heavy dews during the night. The mean maximum range of the Thermometer was 86°, and the minimum 82°.

During the whole of the abovementioned months, when about two to three miles off shore, we experienced a southerly set of from half a knot to a knot per hour.

Rhutnageriah.—Vessels frequently touch at this place for water, and other supplies, but there is neither shelter or good anchoring ground, the bay being completely exposed; and the bottom is for the most part hard sand, with rocky patches here and there.

The Plan is on a scale of two inches to a thousand yards, and the soundings are in fathoms for low water-spring-tides, and it is high-water on full and change about 11 H. 30 M. The rise and fall is about 9 feet: the variation here, in April, was 0° 19′ 00″ East, and the greatest velocity of the Tide observed was two knots per hour.

With any breeze from the Westward, there is a heavy ground swell in the bay of Rhutnageriah, and very heavy breakers on the

* A Theodolite by Gilbert, and Sextants by Troughton, Jones, and Fayrer.

bar at the entrance of the river, and also along the whole line of coast of the bay; the native boats always wait for the top of high water, or when the rocks off the south point of the Southern Fort of Rhutnageriah are covered, before they attempt to cross the bar and run into the river: for want of taking proper precautions, several boats have been lost on the bar in attempting to run into the river. The landing place for ships' boats is on the East side of the Fort, near to the small Tower close to high water mark, but a good look out must be kept for rocks.

Vessels touching at Rhutnageriah should anchor well out, in about seven or eight fathoms water, with the Sudder Adawlut on the southern brow of a hill, bearing about N. E. by E. $\frac{1}{4}$ E. There is no shelter in the South West Monsoon, for small vessels, in either Rhutnageriah Bay or in that of Meria-Donghur, the bay to the Northward of the Fort of Rhutnageriah.

The river runs for some distance inland, and the Native trading boats run up the river at high-water springs for about twelve miles. Horsburgh places Rhutnageriah in Latitude 17° 02′ North; the Fort I believe is meant: our survey places the South Bastion of the Fort in about 16° 57′ 10″ North Latitude.

Rajapoor—in Horsburgh's Directory, and in the chart of the coast after McCluer, is placed in Latitude 16° 47′ 00″ North, which is erroneous. The description of the locality in Horsburgh answers to Poorunghur, and it must be the place marked in the chart as Rajpoor. The small Tower on the point forming the Northern side of the entrance to Rajpoor Bay, is in about 73° 22′ 22″ East Longitude, and 16° 37′ 50″ North Latitude. No mention is made either in the chart or Horsburgh's Directory of the reef off Ambolghur close to Rajapoor.

The reef above mentioned is situated off the North point of Ambolghur, and the centre of it bears *true* N. 39° West from the North point of Rajapoor Bay, from which it is distant about 1800 yards. It is 560 yards in length, and in the broadest part about 250 yards. There is a passage between it and Ambolghur point, about 400 yards broad, with from $4\frac{1}{4}$ fathoms low-water springs, close to the reef, to $3\frac{1}{2}$ fathoms close to the rocks off the point. The reef is steep, too, having four and five fathoms close to the edges on either side, and six and seven fathoms about three or 400 yards off to seaward. There are two or three dry patches on it at low-water springs. For some distance from the reef on every side, we found nothing but rocky bottom: even in seven fathoms water it appears to be a complete pavement all round the reef, the soundings being very regular. In light breezes or calm weather, at high water, the reef does not show itself,

but there are always breakers on it at half flood, and in any breeze it breaks heavily at all times. It has been proposed to have a buoy or beacon on it, but I am of opinion that it would be a matter of great difficulty to moor a buoy so as to hold in all weathers : the sea runs very high here in the S. W. Monsoon, with very heavy breakers and rollers on the reef: our leads caught several times in fissures of the rocks, in six and seven fathoms, but they were of no extent. As before mentioned, the ground round the reef resembling a pavement or table, were a beacon or buoy placed here, in case of its being washed away, or breaking adrift, there are no means in the vicinity of replacing it, and no native boats would venture near it during the prevalence of the S. W. Monsoon.

Several large Pattimars have been wrecked on this reef, but from information gathered from the natives, these accidents have been principally owing to ignorance of the localities, the Commanders of the Pattimars mistaking the Ambolghur point for that of Rajapoor; and there is an opening in the cliffs, at the bottom of the bay formed by the above named points, on the southern side, up which the salt marshes are situated, which appears like the entrance of a river: this also has tended in a great measure to mislead strangers to the place.

I would propose that a Beacon, or Landmark, should be erected on Rajapoor North point, at the place marked in the plan; it would not cost much, as the principal materials are close at hand : a heap of stones, piled in a pyramidal form, and kept chunamed, would answer the purpose. Should this not be done, there is a small Octagonal Tower, about eighteen feet high, and about six hundred yards inland from Rajapoor North point, which should be whitewashed and a small Flagstaff erected on it ; this would mark the proper point of Rajapoor, and prevent the native traders mistaking the entrance to Rajapoor river. The native craft only run on this coast in the fine season, or N. E. Monsoon.

The entrance to Rajapoor Bay is about 1800 yards broad, and in case of a vessel running in for shelter or otherwise, the best anchorage is near to the southern shore, in about $3\frac{1}{2}$ or four fathoms water, having the mouth of Toolsoonda cove well open. With a westerly breeze, there is a very heavy short swell running in the bay : the bottom is for the most part sand, and in one or two places near the entrance, nearly in mid-channel, we found rocky bottom, covered with a deposit of mud and sand for about two feet. In the N. E. Monsoon, a vessel would have no difficulty in getting out to sea from Rajapoor, as the land breeze springs up about three or four o'clock in the morning, lasting until about 9 or 10 A. M., and decreasing in strength as the S. W. Monsoon approaches. The shore is bold and steep too, but it

must be borne in mind that as rocks extend off from both the Points forming the entrance, those off the south point to a distance of about three hundred yards, the greatest attention must be paid to keep the lead going. The greatest velocity of Tide we observed in the bay of Rajapoor was about $1\frac{3}{4}$ knots per hour, the Ebb Tide the strongest, but in the river two to three knots. When the wind was from the S. W., West, or N. W., the Tide of Ebb seemed after leaving Jeytapoor to be impeded in its velocity, the swell in the bay keeping it back, which may account for the large sand bank that is formed (and from what I learnt on the increase) off the point forming the southern side of the river nearly abreast of Esswentghurr, and filling up the greater part of the bay.

Toolsoonda Bay or Cove, is narrow and shallow, but a small vessel in distress might run in and lay on the mud to repair damages ; she would be in perfect smooth water, and sheltered from all winds. I understand a Grab ship belonging to a native, once laid here during the whole of one S. W. Monsoon.

When the wind is contrary for getting up to Bombay, or when it blows fresh, a great number of native craft run into Rajapoor Bay to wait for a favorable change, and anchor in a small bight round the northern point.

The Soundings in the chart are for Low Water springs, and it is high water on full and change, at 11H. 50M.: the rise and fall is about 9 feet.

Should Iron Steamers ever be sent up the Rajapoor River, it will be necessary to employ native Pilots.

We procured good water at Jeytapoor, but vessels requiring it must employ the natives to draw the water, as they are all Hindoos, and would not permit our men to use the well. Supplies are procured from Rajapoor, which is situated about twelve miles up the river, on its northern bank ; it is a place of considerable trade, and is a large and populous town ; the greater part of its merchandize for exportation is brought down by bullocks from the Ghauts, and from thence transhipped in boats for Doonghurr, and Jeytapoor, to the large Pattimars. The Mamlutdar of Rajapoor informed me that the roads leading from Rajapoor to the Ghauts are very bad, and totally unfit for wheeled carriages.

There is a hot spring about a mile from the Town of Rajapoor, which is much frequented by the natives, and is celebrated for its virtues in curing all rheumatic and cutaneous affections. The water, which issues from the side of the hill on the south bank of the river, and about three hundred yards distant from it, is received into a

small tank about ten feet square paved with stone, and from thence runs into the river: it is led through a short pipe, at the end of which a Bull's head is carved in stone, and from this the water pours in a full stream into the tank: it has no peculiar taste or smell, and the temperature was about 120°. *

The native merchants complain that the river is filling up, and that they are put to considerable expense in having to hire boats to transport their goods to the larger Pattimars, which are prevented getting up to Rajapoor: they are most anxious that the Government should adopt some means to deepen the river.

Dredging has been proposed as a means of improving the navigation of the Rajapoor river, but I should say, from my examination of it, that it would be all but impracticable. The bottom, from Rajapoor to Doonghur, is composed of gravel interpersed with large boulders of stone, and in various places large rocks covered with a thin deposit of gravel and mud. From Doonghur to Jeytapoor, it is principally mud, with a deposit of sand, small stones, and occasionally, as before mentioned, in several places there are large banks of mud, covered with mangroves, which the natives say are increasing; and also in many places the banks of the river are high and composed of alluvial soil and gravel under cultivation, and appearing to have been recovered from the river, the foot of the hills being some three or four hundred yards back. One cause to which the filling up of the river is attributed, is the breaking up of the soil of the hills with the plough, which during the rainy season is carried down to the river or creek: such cause will always be in action.

I was unable to obtain any information as to the quantity of water in the river during the rains, but the scouring power during that season, judging from appearances, does not seem to be very powerful, and the heavy sea thrown in the bay during the prevalence of the South West Monsoon overpowers the current setting out of the river, thereby preventing the sand and other soil brought down by it being carried out to sea. The filling up of the river appears to have been going on for a number of years, and any attempt to render the river navigable up to Rajapoor for the large native craft, would not only be attended with an immense expense, but with every uncertainty of success.

The river at Rajapoor is very narrow, and there is only one or two feet in it. At low water, close to the Town, the rise and fall on the springs is about six or seven feet, and it is high water on full and change at 9h. 20m. Large Pattimars can lay at Jeytapoor, sheltered from all winds: there is an excellent landing place for their cargoes, and

* The temperature of this spring was observed in May last to be 107¾°.—Ed. S. N.

it must under existing circumstances be the port of Rajapoor. At high water large boats can get up as far as Doonghur, about three miles from Rajapoor.

Ships not intending to run into Rajapoor Bay, should not come under ten fathoms, either off Rajapoor points or Ambolghur point.

Viziadroog, or Geriah.—This place was surveyed in 1756 (at the time of its capture by Admiral Watson and Lord Clive) by Sir William Hewett, then first Lieutenant of the flag-ship: in 1819 it was examined by Lieutenant Domoniceti, and afterwards by Lieutenant Jeremiah Robinson; and it does not appear that any material change has taken place in the harbour. It is safe to approach, the entrance being wide, and there is no bar. Vessels may anchor in a good birth in three and a half to four fathoms mud and sand, with the Fort flag staff bearing about South West by West, and the remains of the Mahratta Battery marked No. 1 on the chart, which is a low black looking wall of small extent, nearly on the edge of the cliff, bearing about N. N. W. $\frac{1}{4}$ W.; or in three fathoms, with the Fort flagstaff bearing W. S. W., and distant about one thousand yards from the outer or sea wall of the Fort.

Should a vessel be obliged to take refuge in Viziadroog, in the S. W. Monsoon, from stress of weather or other cause, supplies may be procured by giving a few days' notice: they are brought I believe from a large town named Karriputtam, situated some distance up the river, and, by taking advantage of moderate weather, it would not be difficult for a ship to get a sufficient offing to prosecute her voyage.

In the event of a War with a European Power, and should the Government not place the Fort in thorough repair, a few heavy guns mounted on two or three of the principal points, would render the harbour an excellent place for a ship hard pressed by an enemy to take refuge in, as no enemy's vessel at such an immense distance from her resources, would venture (by following her in under the fire of such guns) to incur a loss of either personal or material, which could not be replaced. I have marked on a separate plan the points on which, in my opinion, it would be feasible to mount guns, together with a diagram of their ranges at different elevations: the guns I propose are the 8 or 10 inches—General Millar's guns.

The Fort of Viziadroog is situated on a neck of land on the southern side of the harbour, and is of considerable extent. The walls are immensely strong, but the work of decay is going on: there are several places, where trees have sprung up and fastened on the walls and towers, which must cause their destruction, in spite of their solidity, at no distant period. There are several breaches, two or three of which are on

the western side close to the water's edge, apparently occasioned by the action of the sea, which if not repaired, will endanger the bringing down of a great portion of the wall from the crest: but the repair of these breaches would be attended with some difficulty, as the sea beats heavily against this face of the fort when the westerly winds prevail in any strength, and also on the spring tides. The lower part of the Fort hereabouts seems constructed out of the original rock.

The Fort is commanded by the two hills on which the remains of the Mahratta batteries are situated, and in moderate weather a line-of-battle-ship could take up a position (even at low water) within six hundred yards of the N. W. and Northern face of the Fort.

There is the remains of a Dock built by Angria, in which he used to repair his piratical vessels: it is about two miles from the Fort on the same side; is excavated out of the rock; it dries at low water; the entrance to it is faced with large stones, but there is no appearance of there ever having been gates.

The soundings are in fathoms for low water spring tides; the rise and fall is about 9 feet, and it is high water at 11H. 40M. on full and change. The greatest velocity of tide observed during our stay in the harbour, was from $1\frac{3}{4}$ to 2 knots per hour, the ebb being the strongest. The westerly and southerly breezes occasioned a very heavy swell in the harbour, and there was at times a very heavy surf over on the N. E. side, rendering it dangerous to land in boats, but on the Fort side of the harbour there is no difficulty in landing at all times.

It will be here necessary to correct the error Horsburgh has been led into, regarding the Flagstaff, which is stated to be on a hill to the southward, whereas it now stands in the centre of the Fort, is upwards of seventy feet high, and is of importance as a landmark, but the mast is entirely without rigging or other support; there is a small pole on a hill to the southward, but which can only be seen at a very short distance, and only then in a few positions.

The Latitude of the Flagstaff at Viziadroog is about 16° 34′ 04″ North, and the Longitude 73° 22′ 12″ East.

Dewghurr. — The harbour of Dewghurr is formed by a narrow and somewhat flat rocky Peninsula, about eighty feet above the level of the sea; to the Westward or to the Seaward, the cliffs are steep and nearly perpendicular, but on the other side towards the harbour, the land slopes down like steps, varying in its declivity from 25 to 40 degrees. The fort is in ruins, and is situated on the above mentioned Peninsula, which is connected with the main land by a low sandy Isthmus, on which is a large village thickly studded

with cocoanut trees, and bearing the same name as the harbour: there is a custom house chokey here. In Horsburgh's Directory, Dewghurr is described as an island, and in all the old charts, as well as in those after McCluer, issued by the Hydrographical Office of the Admiralty, it is so represented.

The entrance to Dewghurr harbour is narrow, and the north shore must be avoided by ships, as rocky ground projects a considerable distance off, having sudden overfalls, and in many places very shoal water, and there is foul ground off the whole line of the seaface of the Fort up to 6½ and 7 fathoms, but the soundings here are regular: the anchorage in the harbour is very limited in extent, and is only fit for small vessels.

There is no Flagstaff in the Fort, and on account of its being in ruins, and the great sameness presented by the land about Dewghurr, renders the entrance to the harbour difficult to discover at any distance from seaward. The hills on the northern side of the entrance are covered with a low jungle, and there is a round hill to the northward of the Fort appearing over the flat table land, as seen in the sketch. The point on which the Fort is built presents to view a nearly straight and long line of dark-looking cliffs, with little or no vegetation: on the northern end of it two or three ruined towers are seen, and likewise two conspicuous cocoanut trees about ten feet from the water's edge. Near the northern end of the Fort, there is a cluster of the same trees, with a patch of vegetation, but a vessel must be close in to discern the latter. A saddle-shaped hill will also be seen over the Fort point, and when the mouth of the harbour is well open, there are two or three dark-looking round trees on the slope of a hill to the Eastward some distance up the river.

The Latitude of the N. W. Tower of Dewghurr Fort is 16° 23′ 38″ North: the soundings are in fathoms for low-water spring tides: the rise and fall is about nine feet, and it is high water on full and change at 11H. 25M.: the greatest velocity of the tide observed was one knot and a half per hour.

The River at Dewghurr runs up for some distance inland, but it is very shallow, and only navigable for boats of any size at high water springs, and that only for a distance of about ten miles.

A vessel would have a difficulty in procuring supplies at Dewghurr, and unless on any very emergent occasion, I would not advise a vessel to run into the harbour.

(Signed) CHARLES WILLIAM MONTRIOU,
Lieutenant, Indian Navy.

Remarks on a singular Hollow, twelve miles in length, called the "Boke," situated in the Purantej Purgunnah of the Ahmedabad Collectorate—with a Sketch of the Boke near Purantej Kusba large Lake. By Captain G. FULLJAMES.

[Communicated by the author.]

1.—During the month of November 1842, I had the opportunity of examining the Saburmuttee and Hautmuttee Rivers at the junction of the latter with the former, as also the mouth of a singular Hollow called the "Boke," which is nearly at right angles with the course of the latter river. My curiosity was much excited on discovering on the North Bank of the Hautmuttee, and nearly opposite to this Hollow, evident indications of Volcanic Agency, which, together with the impracticability of preventing two large rivers, flowing at such angles, from cutting through a mass of earth such as must have existed had these two rivers been separate from each other, at once removed from my mind the impression it had imbibed—that the course of the Hautmuttee had been diverted by human agency, as was generally supposed to have been the case by the people of the country, and attributed—as will be seen by the following Extract from the Revenue Survey report of the Purantej Purgunnah by Lieutenant (now Colonel) Melvill, dated Ahmedabad, 1827—to Sooltan Ahmed, the founder of the City of Ahmedabad.

2.—"The Boke, supposed by the people of the country, and apparently with truth, to have been the original channel of the Hautmuttee river, from which the stream was diverted into its present course by means of a Bund or embankment thrown across. This act is ascribed to Sooltan Ahmed, the founder of Ahmedabad, whose intention it was to increase the quantity of water in the Saburmuttee, upon the bank of which he had founded his new city. Though no trace of the Bund can at present be discovered, and after a lapse of 500 years it were vain to expect it, still the tale appears probable, and indeed it is difficult, if not impossible, to account for this singular Hollow in any other way. The Town of Purantej stands upon it, and it is not likely that such a position would have been chosen had not the Boke, at the remote period when the place was built, contained a flowing stream."

3.—Whence the name of this singular hollow, the "Boke," has been derived, I have been unable to ascertain: it may be from the Mahratta word "Boke" (भोक "Bhoke," a "perforation or hole")—a cavern or hollow. It extends south, in nearly a straight line, twelve miles to its junction with the Kharee river; and from the Hautmuttee to the village of Purdol on the Kharee, where the last traces of high

banks are seen, is about thirty miles. Successive Pools or hollows, containing water, are met with at intervals in the first twelve miles: the largest, which forms a kind of lake, is about a quarter of a mile north of the Town of Purantej, and has never, I believe, been known to become dry. The formation of the banks of the Boke is composed of a loose friable soil, containing a large proportion of sand, with small nodules of kunkur or limestone, easily acted on and eroded by the rain water during the monsoon, by which agency deep ravines are formed on either side.

4.—In none of the different Native manuscripts written during the Mahomedan dynasty, many of which I have had access to, can I find any thing to throw light on the point under investigation. Had the undertaking of turning the course of a river such as the Hautmuttee, by means of a Bund, taken place during Soultan Ahmed's life, or those Kings that followed after him, some record would surely have been made, especially as events of far less importance are recorded with great minuteness. The turbulent character of the inhabitants, even in the present day, in the neighbourhood of this locality and along the banks of the Boke and Kharee river, is opposed to this idea, as it is very doubtful whether any power would have induced them to submit to see a work erected which was to divert the water of their river from its true channel.

5.—To the Geological formation of the Banks of the River must we look to enable us both to ascertain the vicissitudes that have taken place, and to furnish us with data whereon to found an argument. In support of which I beg to enlose a Map of the Country around this spot, as also Sections of the Banks of the River, from an inspection of which it will appear more probable that the changes which have taken place have not been effected by human power, or within a period of time of which any written records are likely to be found.

6.—The Hautmuttee River takes its rise among the hills near Paul in Waughur, and after a course of sixty miles joins the Saburmuttee in the singular-shaped basin called the "Koondla." Its greatest length and breadth is three miles by two miles. Nearly the whole area of this basin is under cultivation, as the soil, from its situation, is very rich, and the large trees now growing on this alluvial land would indicate that few alterations have taken place for a considerable period. The banks on either side are very precipitous, and in some parts from 200 to 250 feet above the level of the river.

7.—At the village of Peeplode, seven miles above the junction of the two rivers, there is a waterfall formed by the out crop of a stratum of coarse sandstone extending across the bed of the Hautmuttee.

A sudden fall in the bed of the river, of fifteen feet, takes place at this spot: from thence to its junction with the Saburmuttee a further considerable fall is indicated by the rapidity of the current.

8.—The present bed of the Boke is fifty-five feet higher now than the bed of the Hautmuttee, the highest point being south of the Village of Peelodra. The water from the uplands during the monsoon are here divided: that which falls north of Peelodra falls into the "Boke," and flows north, joining the Saburmuttee below its junction with the Hautmuttee, its channel being under the south bank of the Koondla; that which falls south of Peelodra, flows past the Town of Purantej, and replenishes the different pools, on its way to join the Kharee river.

9.—To explain this more fully, I have had inserted in the map a Section of the Level along the Boke from the large Lake to the Hautmuttee River, as also a section from the waterfall at Peeplode along a nullah, called the Boogwa Wala, to the level of the Kharee River, for which I am indebted to Mr. Jordan, Surveyor in the Ahmedabad Collectorate: a sketch of the large Lake, with soundings by the same officer, I also forward.

10.—The north bank of the Hautmuttee, opposite the entrance into the Boke, is much intersected by numerous and deep ravines, the banks forming small conical hills. On the tops of many of those nearest the river are large masses of what may be called volcanic scoriæ fast falling to pieces from its exposed position. Below this occurs a loose friable whitish earth with nodules of kunkur: further down a red stratum of small round volcanic shot, having the appearance of having been ejected in a liquid state to a great height and during its descent attained its spherical form: it varies from the size of dust shot to that of about thirty to the pound. Whitish clay partly cements these together, but the water from above during the monsoon has cut this stratum into numerous small ridges, and has carried vast quantities down to the bed of the river. A stratum of sand and gravel, composed of water-worn fragments of agate, jasper, feltspar, quartz, &c., lies beneath the shot, the lowest stratum observable being a yellowish white clay with bands or veins of limestone and kunkur running through it in all directions. The south bank presents a nearly similar formation, with the exception of the masses of scoriæ on the conical tops of the bank. The appearance of both banks, but particularly the north, would strongly lead one to the conviction that nothing but some great convulsion of nature could have formed such a chaos of hills and hollows as are to be seen, even if the actual remains of such did not present themselves to view.

11.—That some such power was the origin of the Boke, also appears equally evident from what is above recorded, and from the fact

that all traces of a channel sufficiently large to have admitted the united streams of two rivers during the monsoon to have passed down, cease at the village of Purdol; nor was I able to discover any indications of a Geological nature such as must have existed had the Boke ever formed the channel of such a river as the Hautmuttee, whereas in both banks of that river below the mouth of the Boke to its junction with the Saburmuttee, the deposit of gravel and sand is distinctly seen, and therefore clearly indicating the original bed of a river.

12.—The country on all sides is to the eye nearly level, shewing that the land must have subsided to have formed the Boke; and the basin called the Koondla may have been formed in the same manner. A fall of fifteen feet in the bed of the Hautmuttee is seen at Peeplode, therefore it is highly probable that the same power that was exerted at this spot—only seven miles distant—was the same that effected the subsidence of the lands now called the Boke and Koondla.

AHMEDABAD, 4*th September*, 1845. GEO. FULLJAMES.

N. B.—A few specimens of the strata are sent.—G. F.

Some account of the Topography and Climate of Chikuldah, situated on the Table Land of the Gawil Range. By Assistant Surgeon W. H. BRADLEY, Bombay Army, at Ellichpoor.—*With the following Papers, viz., a Plan of the Plateau of Chikuldah—Section of a portion of the Gawil Range in the direction of its dip—Abstract of Thermometrical Observations made at Chikuldah and Ellichpoor simultaneously*, 1843-44—*Chart exhibiting the Variations of the Thermometer at Chikuldah and Ellichpoor, noted simultaneously*, 1843-44—*Chart of the Temperature of Chikuldah and Ellichpoor, taken simultaneously, showing the Range of each month*, 1843-44—2 *Papers of Drawings of the Specimens of Minerals and Shells—and a note dated Ellichpoor, August* 21*st*, 1845.

[Communicated by the Author.]

THE northern limits of the Berar country are marked by mountainous elevations of considerable altitude, physically as well as politically, dividing it from the Tapty Valley. This chain is an offset from the Great Injadri or Satpuri mountains, with which it runs parallel. Viewed from the south, the acclivities appear bold and craggy, with abrupt mountain falls many hundred feet in depth: scarped masses of basalt show their bluff forms amid the foliage that covers the mountain sides, conferring all the characteristics of such formations upon the scenery. The declivities upon the north possess features essentially the re-

verse of those witnessed here, and though less picturesque, are far more pleasing. The range, which is found to consist of a group of detached hills, for the most part observing a parallelism in their order of extension, are seen gently subsiding as they recede northward, till their bases mingle with the levels of the Tapty Valley. Deep ravines often divide these plateaux from each other, the bottoms of which are choked with the thickest jungul, whilst the sides are clothed with flowering shrubs and noble forest trees. The flat table-lands that crown the summits have little beyond grass growing on them, the Roussah variety that affords the spikenard, being the most conspicuous. Over these undulating tracts, groups of trees are thinly scattered, giving to the whole a park-like character; and not inaptly recalling to mind our own rural scenery at home. The fertile and highly cultivated Valley of Berar is seen in its complete breadth from these heights dotted over with innumerable topes, and tinged with the various hues of vegetation; the site of its large Towns being marked by blue filmy wreaths of smoke hanging over their localities. The Ghats are few, and difficult of ascent, being narrow stony defiles, which, with one or two exceptions, are but little better than mere goat-paths.

From the diminished density of the atmosphere on these heights, a temperate climate is found prevailing at that season when all nature upon the plains is languishing from excessive heat: the benefit of exchanging one climate for the other at such a period, is too obvious to comment upon, and it is only remarkable that advantages so great as these mountain retreats afford to Europeans, should have been only taken advantage of in, comparatively speaking, these latter days. The Cantonment of Ellichpoor, suffering as it does from the effects of an excessive climate, has the great benefit of these Hills in its vicinity to resort to during the hot season; and the Sanatorium of Chikuldah, established now five years by its community, bids fair to rank amongst the many agreeable Sanatory resorts of India. It is situated upon one of the higest table-lands of the Range, and though limited in extent, still possesses within itself every requisite for health and enjoyment—the confined limits of the Plateau being of little consequence from the various paths and roads, to and from its summit, leading to rides and drives of any lengthened extent.

The Gawilghur Range has its geographical position defined within the parallels of 76° 15′ and 78° 36′ East Longitude, and 21° 5′ and 21° 35′ North Latitude: the highest point gives a height above the Sea level, of about 3717-$\frac{452}{}$ feet, or somewhere near 2400 feet above the Berar Valley. Its strike is in conformity with the Great Central Trap upheavements, and runs about South 60′ West and North 80′ East.

The general features of its geological formations are peculiar and remarkable. Stratiform beds of basalt, in every varied form of its

appearance, are seen lying in horizontal parallel planes amidst the body of the mountain, all dipping at a low angle to the eastward of north, generally about 10°. The beds amidst which the basalt is intercalated, would appear to be of a mechanical origin ; very favorable opportunities for viewing their disposition, and arrangement, occur in the vertical sections of the deep ravines. The fundamental rock is wacken, amidst which the basalt reposes, the globular variety mostly prevailing. These nodules, varying in size from pistol bullets to masses many tons in weight, having their substance arranged in thin concentric lamellæ, very readily acted on by the elements, and wearing down into the surface soil of the hills, their peculiar formation seems not to have been at all satisfactorily accounted for. Some of the wacken beds appear to be as much as 400 feet in depth ; upon their surfaces are found strewn beautiful varieties of chalcedony, agates, heliotropes, geodes, quartz, spar, with other silicious concretions, mamillated and staloclital, that have become exposed by the original fissures into which they had infiltrated, wearing away. Next in importance to the nodular basalt may be noted its darker compact variety : sometimes occurring massive, but more frequently seen assuming a columnar appearance or an approach towards it. On the almost isolated hill on which Gawil Fort stands, and which is connected to the Chikuldah hill by a narrow ridge, we perceive upon its scarped sides, five beds of columnar basalt, averaging in depth from 50 to 100 feet, rendered conspicuous by their darkened hue, that plainly distinguishes them amidst the reddish grey arenaceous beds in which they lie : we count also ten other stratiform beds, readily discernible at favorable seasons, when the hill side is void of vegetation. Many of the highest summits are capped with this compact basalt, generally giving a tabular surface to the hill, but when inclined to become columnar, the rock is broken up into disjointed masses, forming chasms, and scarped projections,—an arrangement peculiar to trap rocks: these rugged shapes suggested to the native warrior the easy conversion of such spots into strongholds, and retreats, in times of trouble,—the bulwarks and defences Nature here had thrown up, requiring little aid from man to render impregnable : the walls and bastions of Gawilghur have thus been built in and upon huge masses of basaltic rock.

The most remarkable example of columnar trap in the whole range, may be witnessed at the village of Wudjhur, situated at its foot, where the river Sarpun has scooped out a deep channel as it leaves the hills. The molten rock appears to have flowed into a hollow concavity, judging from those phenomena that usually present themselves when such has been the case, and here are present,—namely, distinct gradations in the forms of the mass, arising from the different degrees of temperature in the cooling process, and the prisms inclining in certain positions, following an admitted rule that such forms are always pro-

duced at right angles with their cooling surfaces: three distinct sets of columns appear in the vertical section thus accidentally disclosed—the lowest being of a dark grey color, almost black, very compact and heavy, with a soapy feel to the touch. All the prisms throughout are from four to six sides, the lower ones being smaller in their respective length and breadth than those above: the middle series have a rusty surface, but are dark grey within, and of less specific gravity than those beneath, whilst the prisms are broader and more lofty; the upper series loses nearly all resemblance to columnar structure, and is of no great breadth, its substance passing into the wacken beds reposing on it, from which indeed it can scarcely be distinguished.

Another interesting circumstance in the physical geography of these hills will be found in the extraordinary circumstance of the trap rocks overlying those of sandstone and lime. Low sandstone ridges are seen extending from near Wudjhur to Byram, along the base of the range; beyond which lime of an earthy nature is found in low undulating hillocks. When these beds have been in contact with the trap, they assume a crystalline appearance, whilst under similar circumstances, the sandstone is seen converted into chert. These tertiary beds lie generally in horizontal strata: sometimes they show a departure from this regularity, and incline at a high angle, as though they had suffered from some violent upheavement or displacement. The sandstone varies from cream color to buff and red: occasionally its particles are but loosely agglutinated, but for the most part it is found compact and firm, and a rock admirably adapted for building purposes, being both easy of working and durable: the walls and gateways around the City of Ellichpoor have been built with stone quarried from these rocks. Marl, purple and lilac colored, or mottled blue and white, appears interstratifed with the nodular basalt lying on these formations, and a slaty marl in thin lamellæ, laden with mica, lies upon the surface of the sandstone. No fossils or vegetable remains of any description have been found amidst these tertiary deposits, though in their immediate neighbourhood amongst the trap rocks, those bearing a lacustrine character have been found in great abundance, and whose presence has conferred upon the whole range the character of being fossiliferous. Their site occurs at a considerable height in the mountains, lying scattered upon a terrace of nodular trap, in large masses of rock that evidently have been detached from the sides of the adjoining mountain. This spot is traversed by the Kurridghaum Pass, the native name for which is the Shepe Ghat, being most probably a corruption of the word sepe or shell.

Fossils similar in kind were found upon the Tapty side of the hills, at a place called Jillan, by the late Dr Voysey, and nearly under

similar circumstances. The matrix of these shells is an indurated clay, approaching the several characters of hornstone, chert, and shale, thus altered by the contact of heat,—the color varying from bluish grey to black, and fawn color to reddish brown. Acids have no action upon them, nor the contained fossils. In those darker rocks approaching the nature of hornstone, apalline marks abound, being the conversion into chalcedony of minute shells: stems of reeds, and grasses, leaves, and teeth of fish or reptiles, appear in the shale and chert; as well as charred lumps of wood: a yellowish slaty clay, on splitting, presented beautiful dendritic forms. The prevailing shell throughout is a species of physa, called after Mr. Prinsep, physa Prinsepii, and a limited variety of other species of univalves, as paludinæ limnites, and melaniæ: two species only of bivolve shells are observed —uniones, and cypræa. Some of these fossils are occasionally found assuming the nature of the involving rock, whilst others have been metamorphosed into a mass of chalcedony, having their cavities beautifully lined with sparkling crystals of quartz; and very often nothing but the mere cast remains within the rock, or impressed upon its surface,—the hollow cavity being filled with crumbling cinders of the original shell. A perplexing circumstance not easily accounted for, occurs in the flattened shape these fossils often assume,—their sides, though frequently fractured, not being invariably so. Since Dr Voysey first made the discovery of the existence of such formations—now upwards of twenty years ago,—the same species and varieties have been found scattered very widely apart from each other,—localities near to Mundoo in Kandeish, in the Nerbuddah Valley, and between the Godavery and Nagpoor, suggest themselves at the moment; and which have been very ably described by Dr Spilsbury and Dr Malcolmson.

A submarine formation seems to offer the easiest solution to the difficulties in the phenomena of these mountains. Regarding the range from any commanding height, the uniformity and adaptation of each valley's opposing sides throughout—stratum to stratum, and bed to bed, occurring in such opposite uniformity, that it is quite evident the whole of these riven masses have once been a continuous body,—might not the assumed mechanical formation here put forth, be sufficiently explained by the Mosaical revelation of the world's creation? We learn there, that during the earlier epochs water covered the face of the earth, that not until the third of "the generations of the heaven, and of the earth," did dry land appear. Man cannot conceive the lapses of time that had thus in all probability passed away, but a thousand years are but as a day in the sight of Him who made him. To this period it may be that Moses is referring when he says in the 90th Psalm, in setting forth the providence of the Almighty:—"Lord, thou hast been our place of refuge from generation to generation, before the mountains were brought

forth, or ever thou hadst formed the earth and the world." The mountains rising through their beds of waters, riven and torn apart by this stupendous movement, would cause them to appear in the state we now witness ; though probably their present heights were attained by a process more gradual,—by successive throes, and at great intervals, or there would be no accounting satisfactorily for the tertiary and lacustrine depositions here found. On the highest point of the range I discovered what appears to be a species of zoophytic tubicolæ, which, if proved to be such, would be decisive as to the origin of the range's formation.

The surface soil is a light ferruginous sandy clay, stained rusty red by iron, and derived principally, as before remarked, from disintegration of the nodular trap : this variety of soil would be highly productive in any other locality than upon heights like these, but here, its light character admitting of a ready percolation, too quickly drains off the moisture contained upon its bed ; for the substratum, though of itself retentive enough, nevertheless becomes sooner or later denuded at the sides of the valley ; agricultural occupations consequently are confined solely to the rainy seasons, and even then afford but little scope for comment. Wheat, rice, sugar cane, and a small millet called "koodaka" (paspalum scrobiculatum,) are cultivated in favorable localities—the latter indeed is the staple food of the natives : beyond these, I am not aware of any other produce grown upon the plateau. The spots they are cultivated in are thickly covered with large loose stones, more useful than ornamental by their presence, but serving to repress the otherways great radiation, and so retarding evaporation, as well as condensing fogs and vapours as they float along the surface. In the intermediate valleys, nature and circumstances combine to produce a soil unceasing in its fertility, and productive to an eminent degree. Here the soil not only finds its great desideratum, moisture in abundance, but also obtains a vast amount of vegetable humus, as a valuable adjunct ; leaving nothing wanting for calling forth its latent virtues, but human industry,—but that, unfortunately, is not to be found upon these mountains, the natives of which are averse to labor or improvement of any kind, being a most abject race, and very low in the scale of humanity.

Upon this lofty divisional barrier the condensation of moisture must be enormous, seeing that such large sized rivers as the Tapty, Poornah, and Wurdah, as well as many very important sized streams, derive their sources from these heights. A reference to the vertical section of the range displays the disposition of its large horizontal masses, retentive and un-retentive in their characters, between which, reservoirs of water are as it were partially retained the whole year round, percolating through successive strata till the levels of the

valley have been passed, and then supplying the springs and wells of the adjacent country. In some places, at the foot of the hills, water runs the whole year round. Thus we perceive how important an office is imposed upon these mountains, which not only arrest the passing clouds, causing their contents to burst upon their summits, but actually retain them, as in a storehouse, to be meted out again as may be required. Chikuldah being nearly the highest plateau of the range, suffers, from the causes specified, the want of water: upon the plateau immediately below, and with which it is in easy communication, such an unpleasant state of things does not occur: for here the compact basalt rising close upon the surface, allows a good supply of water to be obtained by bunds, a proceeding which has in former years been adopted very effectively; the proof of which is apparent in the ruined bund of a large sized tank, around which are found numerous remains of tombs and buildings. This bund has now been repaired at very considerable expense, ensuring a never-ending supply of the element,—the only circumstance wanting to constitute the sanatorium perfect in its agremens: no less a matter of congratulation is it to the natives themselves, who till now were forced to drive their flocks and herds into the low country, abandoning the place whilst the hot season lasted. Tradition declares this tank to have been originally constructed by the Rajah of Ellichpoor, contemporaneously with the Fort of Gawil, eight hundred years ago, and that its bund was cut through by Mahomedans in a foray a few years after its erection: this is said to have occurred about the close of the 10th century, and probably was in one of those many expeditions into the Deccan, undertaken by the house of Ghazin, before the grand invasion at the close of the 13th century, when the Moslem obtained a surer and permanent footing,—the city of Ellichpoor being the first fruits of their harvest of plunder.

The whole vegetable world upon the range bears an interesting character, much of which may claim an importance far beyond the mere pleasurable gratification of the eye, usefully administering as they do to man's more immediate wants and necessities. In addition to the flora of the plains, we find the altered character of the atmosphere occasioning corresponding changes in the kinds here present: conditions, be it observed, equally affecting organized as unorganized bodies. The first novelties of this discription that probably arrest attention, will be its ferns and mosses, its parasitic air plants, and gigantic creepers: but a lover of such scenes would hardly dare to trust himself in dilating upon all that meets his gaze amongst these floral wonders, lest in the detail he should incur the imputation of exaggerating their loveliness. Nothing however can be more amusing, nothing more delightful, than their contemplation. Were a judicious selection of sites to be made, there cannot be a reasonable doubt

(and this remark is made advisedly) but that every useful plant of the east might here be made to flourish; not excepting even the tea plant —premising, as a matter of course, that those sites shall command the means of being refreshed by irrigation where found requisite. Its soil is eminently fertile, and its climate undergoes no very excessive alternation, either of heat or cold: its heats, though necessarily great, are tempered, and not exhausting; neither are its chills sudden or severe, but equable when present, nor lasting longer than is necessary to restore those energies the summer may have weakened.

The Protean character shed over these scenes by the mutability of its vegetation, is certainly not the least of their charms; each month effects a change of some kind, adding to, or taking from, its beauties: the period they reach perfection is during the hot season, when the increased heat of the atmosphere gives momentum to the vegetation, by setting the sap in motion: this living principle strongly at work, shortly recalls to life its blossoms, buds, and leaves. The forest, till now sombre looking, from its deciduous character, appears gradually clothing itself with

"Green, smiling Nature's universal robe,"

preceded by many a bright-hued flower—and the sober-tinted mountain sides burst forth in gay and odour-breathing parterres. Among the beautiful chosen few who first emerge from the gloomy chaos, we note the gaudy-blossomed bombax, both orange-hued and crimson; the brilliant flaming erythrena; the royally-clad butea, "wreathed in amourous twines;" the pensile blossoms of the medicinal cassia, glowing in burnished gold, amidst leaves of brightest green—giving pleasure by a sense of its graceful form, as well as from its delicious fragrance; the perfumed trumpet-flower, and no less sweet-scented dalbergia; and very soon we find this little band swollen into a host of followers, for as we stroll amid the dells, on each returning day we mark with admiration and delight the birth of some new floral beauty. The gigantic creeping bauhinia amazes by the marvellous length of its flexile branches, whilst it pleases by the profusion of its blossoms, hanging in clustering festoons over the deep ravines. By its side, in strong and lovely contrast, we have the sterculia, decidedly the most extraordinary of the flowering trees here present; and peeping from their dark-leaved beds we see the white and scarlet-tufted blossoms of the careya—or the more chaste and modest-looking phyllanthus, whose exquisitely delicate florets are half hidden amidst its new-born leaflets. Upon the mountain sides we have the amyris commiphora and boswellia glabra,

"whose rich trees weep odoriferous gums,"

besides a variety of jasmines and rosebays. As the hot season draws towards its close, the atmosphere shows symptoms of accumulated

moisture; the sunbeam which had commanded that the sap should rise and bring forth buds and blossoms, the rain-cloud now is turning into rankest vegetation; mosses and lichens hang upon the trunks of the larger trees, whilst their gnarled and wrinkled branches are shrouded in flowering wreaths of the beautiful parasitic orchis, as well as many plants of the loranthus. With the viscum opontiodes we seem to feel a sort of private friendship, so strongly does it remind us of the mistletoe, and the agreeable privileges at certain seasons its shade admitted of. A whole host of creeping plants now shoot into life, entwining their graceful tendrils on every side; whilst below, a carpet of strong and vigorous vegetation is spread out. As the rains continue, scitomanious plants of all descriptions abound, and very beautiful are the crimson and yellow flowers of the zedoary, which grows in the moist valley in great profusion, as well as a large variety of lillies and arums. After the cessation of the rains, Nature seems to require some repose, and though not exactly torpid, still remains quiescent: this period may be termed its winter, possessing as it does distinctive peculiarities; and whilst it continues, little gaity appears in the vegetable world—the downy grislea, and gourian clematis, being amongst its most conspicuous varieties.

The following have been selected as affording examples of the most useful indigenous productions:—

Timber Trees.

Tectona grandis, acacia Arabica, dalbergia sissoo and oojiensis, melia azederachta, melia sempervireus, and melia azederach, diospyros melanoxylon, lagerstræmia regina, mimosa Smithiana, mango, bassia latifolia, phyllanthus emblica, terminalia belerica, terminalia tomentosa, tamarindus Indica, bamboo, calyptranthes jambolana, swietenia febrifuga.

Drugs.

Curcuma zedoaria, agle marmalos, argemone Mexicana, asclepias gigantea, asclepias pseudosarsa, bergera konigii, cassia fistula, cucumis colocynthis, cinchona excelsa, dalbergia oojiensis, euphorbia ligularia, gentiana verticillata, phyllanthus emblica, terminalia belerica, vitex negunda, vitex trifolium, swietenia febrifuga.

Gums.

Acacia Arabica—feronea elephantum, butea superba and frondosa—sterculia urens—spondeas mangifera.

Gum resins.

Boswellia thurifera, amyris commiphora.

Dyes.

Careya spherica, dalbergia oojiensis, butea frondosa and superba, tamarindus Indica, cucuma zedoaria, grislea tomentosa, morinda ex-

serta, nerium tinctorium, rottlera tinctoria, phyllanthus emblica, terminalia belerica.

Cordage.

Bauhinia racemosa and parviflora, careya spherica, sterculia colorata, mowha grass.

Edible Fruits and Berries.

Agle marmalos, anona squamosa, bauhinia racemosa, bassia latifolia, elœcarpus serratus, feronea elephantum, grewia Asiatica and orientalis, mango, sterculia urens, tamarindus Indica, musa superba, dyospyrus melanoxylon, calyptranthes jambolana, bergera konigii, zizyphus jujuba and napeca, phyllanthus embleca, terminalia tomentosa and belerica, spondeas mangifera, Buchaniana latifolia.

Tanning.

Acacia Arabica, dalbergia oojiensis.

Slight as the foregoing sketch may be, it probably will serve to convey some notion of the leading botanical peculiarities. The consideration of its fauna will be found equally instructive and amusing, offering indeed a wide field, from which may be gleaned much that interests both naturalists and sportsmen; and first in the order of importance may be ranked the Indian bison—"bos gaurus," or as he is by some more significantly termed, "bos cavifrons," a peculiarly high and arched forehead distinguishing him from the rest of the bubuline and bovine species: his savage nature, when fairly roused, often puts the skill, as well as intrepidity, of our sportsmen to the test, and it is no uncommon circumstance for these rencontres to be attended with fatal results. Various tribes of predatory animals abundantly provide their lairs and dens at the expense of the numerous inoffensive animals found browsing on the hills. These predacious habits act as a countercheck to the encroachments of particular classes of animals, keeping them thus within due limits, otherwise they might exceed all bounds, and here become an evil to man of far greater magnitude than even their savage foes to whose fangs they now fall a prey.

Of predacious animals we may mention principally—the tiger, leopard, cheeta, wolf, and hyena; and indeed the wild dog, for he is found bold enough, when in packs, to attack the tiger. The several kinds of deer are—the cheetul, fac simile of our fallow deer, the four horned and the barking variety, all seen in large numbers, with the exception of the first named, who is more frequently found below the hill; samber, and the painted and goat antelopes. The lynx occasionally, jackall, fox, wild cat, ichneumon, porcupine, and hares, are all met with. A beautiful species of flying squirrel, equalling in size a cat, is

found in the ravines. It is of a slate color, with very bushy tail. Its favorite food appears to be the nut of the beleric myrobolon, which it stores in the hollow of old trees for future supplies. No other monkey but the common one of India, "semnopithecus entellus," is found: troops of these are constantly seen scrambling up and down the rocky ravines.

Birds are numerous, some splendid in plumage, and a few gifted with song. The jungul fowl breeds in great profusion, and as in him we see the progenitor of the poultry yard, he claims a passing notice. The male is about the size of a three parts grown domestic fowl; body speckled grey, with deep orange yellow ruff: the great and only peculiarity between the tame and wild breeds consisting in the wing coverts of the latter being tipped with a substance resembling finely split whalebone, of a bright amber color. His crow is that of a young tame cock, who has not yet obtained the proper note. The female has a dingy brown hue with black points, and neither are good eating. The spur fowl is also plentiful, but tasteless as food. Below the hill, the beautiful black florikin is found, and in much request as a dainty for the table. Peacocks as usual are numerous. Amongst many other kinds, we also note the woodpecker, grey and painted partridge, the rock, blue and green pigeons, golden oriole, ring dove, cuckoo, fern owl, magpie, curlew, Indian nightingale, hoopoe, coppersmith, crested lark and sky lark, hill mynah, yellow wagtail, green flycatcher, paradise flycatcher—both red and purple varieties, grey and rain quail, several species of hawks, the robin, red poled and throated green paroquets, Indian blackbird, the thrush, crow, sparrow, kite, vulture, and gigantic crane.

Amongst these few varieties thus named promiscuously, we recognize some as familiar to us in our more temperate climate. The sweet melodious strains poured forth by the Indian blackbird, as he is called, inspires pleasant thoughts and wakes up fond associations: the same agreeable feeling is aroused by the simpler melody of the robin, or by the startled peewit screaming out its energetic note: how delighted do we pause, and listen to the well known note of repetition that the cuckoo utters, as it is borne upon the breeze from the ravines below mingled with many strange jungul sounds: rising above the rest we detect the short crow of the jungul cock, the plaintive note of the turtle dove, or the metallic twanging of the coppersmith,—sounds ever present in an Indian forest.

The fish found inhabiting the jheels and streams leading from the hills, are the rhoe, murel, thom, coul, puddum, and singhul, of the larger sorts; whilst the lesser fry consists principally of the bham, dhoklah, banth, jorrah, khumnair, kuttairah, kunjail, chuppel, and sooval. Alligators are sometimes met with in these streams, as well as otters, tortoises, and crabs.

The simple inoffensive beings who inhabit these mountains are called Ghonds, an original race, of obscure descent, but still of an undoubted antiquity; and having said thus much, little more can be advanced concerning their past history of an authenticated nature; for, possessing no written character, the only source for investigation left was that derived from oral testimony, and this has furnished little beyond the most meagre details, which, scanty as they are, have been vitiated by a mixture of absurdities and preposterous events: neither do they possess a regular order of Priesthood, otherwise in all probability something might have been obtained through this channel, illustrative of their earlier times. We find them in appearance, customs, and dialect, differing most essentially from the surrounding tribes; as strongly indeed as it is possible for one remote nation to do from another. This remark, however, does not apply equally to the neighbouring mountain tribes, for with them many peculiarities are found in common. That they are not Hindoos, nor ever have been, will I think be corroborated, by a consideration of many of their distinctive peculiarities: the leading ones of which will now be mentioned. And first of all as to their physical constitution. The lamentable amount of ignorance, and poverty, we see our poor fellow beings here plunged in, is very melancholy to contemplate: the causes are to be explained in their long continued semi-barbarous condition; where the natural passions of the heart have been permitted to take their head-long course, with neither truth to guide, nor reason to soothe, the fiercer emotions: self interest and fear are the only motives that influence such beings. But though the Ghond labors under these depressing disadvantages, there still lies within him the germ of much that might be turned to good, for we find him simple-minded, inoffensive, honest, frank, brave, and its inseparable associate, a great regard to truthfulness: on the other hand, he is disinclined to labor, and much addicted to immoderate use of spirits, too readily obtained, unfortunately, from the mowha and toddy trees at hand. This trait of veracity rather puzzles the native of India, who believes in the Spanish proverb—that a lie is worth telling if it holds good twenty-four hours; and rather attributes it to obtuseness of intellect, in not fully comprehending the value of a lie.

In person, the Ghond is generally sturdy limbed, and rather under than over the middle size; dark skinned, with harsh oval features; we note in him the distinctive facial peculiarities of the Tartar tribes—namely, high broad cheek bones, a low round forehead, and expansive alæ of the nose, though not flattened like the Negro: moreover, the absence of the beard and moustache, makes the resemblance perfect. These physical peculiarities are to be met with also in the aborigines of the Malayan peninsula—a race who have with little doubt sprung from a Tibetian origin: those who may have seen these two races, the Ghonds and Malays, cannot but be struck with the close resemblance

existing between them. The Ghond's habits are by no means cleanly ; oblutions are very seldom practised by him, either on his person or his scanty clothing. His dress is the simplest possible, being a dhotee of the smallest dimensions consistent with decency, and a few twisted folds of a filthy rag for a head-gear : in the rains and cold weather a coarse cumblee is added. Dirtier people cannot well be imagined. Their abodes are wretched-looking hovels, destitute of every sort of comfort we are in the habit of attaching in idea to the abodes of man conducive to this purpose : their formation has been effected in a very primitive manner, by placing logs of wood horizontally between upright poles, throwing over all a thatched pent roof of grass, firmly secured down by long poles, to guard against the force of the high winds here strongly prevailing : the whole is surrounded by a thorn hedge, to exclude wild beasts at night. They take two meals aday, eating indiscriminately of all flesh, though the superior tribe—" Koorkoos"—affect to abstain from that of the cow : however, they make no objections to beef collops from the bison, and this apparent fastidiousness is perhaps ostensibly made merely to conciliate, and appear respectable in the eye of their Hindoo neighbours, who entertain a holy horror of those tribes indulging in the flesh of kine.—When desirous to marry, the man binds himself to serve the father of his intended wife for a period of time agreed upon, following in this instance the Patriarchal custom we read of that Jacob adopted, in serving the father of his two wives, Rachel and Leah. Whether from poverty or inclination, the Ghond has seldom but one wife, and she, possibly from the same reason, is not betrothed at those early ages witnessed with Indian maidens. They possess a tolerable immunity from disease, a circumstance that I once heard the patel of a village at the foot of the hills comment upon in a querulous tone, declaring that the hill people were never sick, lived long, and as they eat strong food, their hair never turned grey, nor their teeth got loose ; we who live upon the meidan, said he, are always getting sick, we get white hair, and lose teeth very soon, and in fact are old men long before our time. In a general way the patel's observations were correct, and beyond the usual epidemics and rheumatic attacks, little disease appears to visit them. An opinion of their general health may be formed by observing the many aged people amongst them, shewing them to be a long-lived race. They bury their dead, cremation never being performed but on some very extraordinary occasion. The corpse is placed horizontally in the ground, with the head invariably directed to the south, but they could assign no other reason for doing so beyond that of custom.

The Tribes upon these hills are thus divided :—

1. The Koorkoo,—cultivators of the soil.

2. The Nal,—shepherds, and a class who are thieves by profession.

3. The Gowlan—is subdivided into distillers, milk and ghee merchants, and herdsmen.

4. The Bowyah,—the Raj Ghond, a class from whom more particularly the military are chosen.

5. The Purdah,—woodsmen.

6. Monghier,—fishermen.

7. Sadoo,—hunters.

8. Bhulli,—The least worthy class, amongst which are found dhairs and weavers.

Like the Massagetæ, they possess no temples—their places of worship being merely a rude low circular wall of loose stones, inside of which are placed two or three taken from the general heap, and selected from some pecularity of form: these are stuck upright, and smeared with oil and sendoor—or sometimes two rudely shaped posts are placed in the ground instead, on which uncouth lines are carved, intending to represent the Sun and Moon— and these alone constitute their special objects of worship, the palpable glories of these luminaries moving their souls to admiration, affording thereby a visible object for their adoration. Not but what they will occasionally offer worship to some of the Deities of the Hindoos, as Byroo, Mahadeo, as well as a village Deity called by them Kerra Deo; but by the manner and tone in which my questions on this point have been invariably answered, such proceedings were not considered orthodox, for they have no other Deities of their own but the Sun and Moon; the former they worship under the name of Purmasher, the latter as Chanda; and garlands of flowers, fruits, red lead and ghee, are placed upon their shrines. The ancient Scythians also worshipped the Sun, as these people, and sacrificed to it horses emblematical of its swiftness—we see the form of a Horse head rudely carved on the side of the wooden post, opposite that on which the Sun is represented. They have no regular Priests, but employ the eldest of the community to perform the sacred offices: this person is then termed a Boomuck. The functions of jadu are generally associated with his duties, and he then is termed a Sayer, for we may always observe that credulity and superstition are invariably amongst the most conspicuous vices of a half civilized community. Witchcraft must indeed be found a lucrative calling, judging from the awe and profound regard the charms and munters of these Sayers and Boomucks are held in.

It is rather extraordinary that efforts to enlighten these "dark places of the earth" have never been attempted by those admirable Societies who have such zeal in spreading far and wide the truths of Christianity. The natural ignorance here to be overcome, offers none of those insurmountable difficulties which present themselves where it has been acquired. The learned mystification of the Hindoos scornfully rejects our

attempts to teach them: here no such prejudices are to be removed,—all that is required being to instruct and direct aright to a purer knowledge of the Divinity. It will be a joyful time when these simple beings shall be able to declare, "the day is Thine, and the night also is Thine: Thou hast prepared the light and the Sun," rather than as now, worshipping these glorious luminaries as Gods themselves.

Before dismissing the subject, it is as well to advert to a horrid practice said to be observed amongst a tribe called the Binder-wars, situated in the hills of Oomercuntie at the source of the Tapty. These Ghonds are declared to murder their own kind for the purpose of feasting upon them—a fact too horrible to credit, were the truth not too well established to admit any doubt about. However, the Ghonds in this part of the country strenuously deny the existence of this revolting custom. This may be mentioned as another confirmation of their Tartar origin; for such customs were common to the Scythian and Tartar Tribes, and Massagetæ of Asia, as has been related by Herodotus, Pliny the elder, and many other Greek and Latin Writers.

No knowledge of an alphabetical character is possessed by them, neither do they go beyond the first decimal in their scale of enumeration: when higher numbers are required, they make use of the Mahratta mode of expressing them. The sound of the language is pleasing and soft, and inclining to a monosyllabic construction. A few words are here given to convey an idea of its nature:

Man	Dota.
Woman	Jaffai.
Father	Abba.
Mother	Ma.
Brother	Dadur.
Sister	Beetee.
Boy	Por,rea.
Girl	Tarrai.
Horse	Goor,ghee.
Bull	Banjlee.
Cow	Ghaie.
Buffaloe	Bud,kil.
Bullock	Dobar.
Dog	Cheeta.
Cat	Moon,noo.
Goat	Seeree.
Pig	Sookree.
Fire	Singhul.
Water	Dar.
Earth	O,tai.
Air	Koyo.
Sky	Ded,dar.
Clouds	A,bul.
Thunder	Gur,ruj.
Lightning	Hee,run,bar.
Stars	Ephill.
Moon	Goomong.
Sun	Sooridge.
Rain	Dar-gommar.
Hail	Gar,ra.
Morning	Patt,heer.
Night	Rat.
Daybreak	Goy,moi,orled,jen.
Evening	Sing,gha,rook,jen.
Noon	Barree,par.
Hungry	Rang,ai,en.
Thirsty	Ta,tungnein.
Thick or Large	Kat.
Thin	Ooshoo.
Scarcity	Kal.
Plenty	Goy,noi,yai.
Grief	Geeyou,bon,rein.
Joy	Koosh.
Cold	Rarung.
Hot	Gurm.
Wet	Too,puen.
Dry	Lokoren.
East	Goy,moi,orled Bar.
West	Gomoi Namroo Coinay.
North	Marwar.

South... .....Beraree.
Fruit..... .....Jhoe.
A House... ... .Oura.
Jungle... ... .Doonghoor.
Money..... ... .Dama.
Salt... ... .Boo,loom.
Bread.....Sokra.
Flesh.....Gilloo.
Flour..... .....Kolum.
Oil..... .....Soonum.
Clothes.....Loo,boo.
Shoe..... ....Kow,rai.
Road..... .....Kora.
Pathway... ....Sannee Sung,kora.
Mountain..... ... ...Kat, Gatho.
Stream... ....Lore.
River..... .....Guddah.
Plains.....Sehwan.
Head..... .....Kuppar.
Belly..... .....Light,chaddewa,
Face..... .....Mo,ar.
Mouth... ... .Cha,boo.
Nose..... ....Muh.
Arm..... ....Bow,ra.
Hand..... .....Tee.
Fingers..... .....Bhote.
Leg.....Boo,loo.
Foot..... ....Killa.
Eyes..... ....Men.
Ears..... ....Loo,toor.
Teeth.....Tee,ring.
Tongue..... .....Lang.
Hair... ....Op.
Sleeping.....Gee,tei.
Waking... .....Jactan.

Walking... ... ...Sindra.
To Eat..... ... .Jummah.
To Drink... ... .No,noo,bar.
To Laugh..... .....Laudabur.
Crying..... ....Yum.
To Stand..... .....Teng,ghuen,bar.
To Run..... .....Jup,po,survey.
Day's Journey....Mea,denum sennabar.
Rough.....Rukkum.
Smooth..... ... .Bobree.
Corpse..... ... ...Go,i,en.
To-day..... ... .Ta,ien.
Courage.....Um,bung,egra.
Fear..... ....Egra,bar.
Sign of the negative..Bung.
Rat.....Poosee.
Mouse..... .....King.
Tiger..... .....Koola.
Bison..... .....Gowa.
Fox.....Panmangha.
Peacock..... .....Mar-ra.
Jungle Fowl.....Seem,ma.
Parrot... ... ...Horea.
Snake.....Beeng.

Numerals.

1.....Mea.
2.....Barrea.
3.....Apea.
4.....Opoonia.
5.....Munnīa.
6.....Tooni,i,a.
7.....Aī,e,a.
8.....Elărea.
9.....Arā,ia.
10..... ....Gullea.

The Ghond supplies his small wants by resorting to the villages below the hills, where he barters the produce of the jungul for cotton cloths &c.: these are logs and poles of blackwood and teak, with various other sorts of timber—firewood, grass, bamboos—teak leaves for thatching, and leaves of the climbling cuchanar for the baniahs to wrap up the commodities they sell in the bazar—resinous gums of the bdellium and olibanum trees, grass oil, wild honey, and bees' wax.

It is an unusual sight to see them armed with any weapon beyond a hatchet—the bow and arrow and talwar are their arms.

Climate.

It cannot have escaped the notice of every enquiring person, that those degeneracies of health usually afflicting Europeans in this country, are now of far less serious import than were occurring in former days. Writers on medical statistics affirm, that the rate of

sickness and mortality of any given people always remain the same under similar circumstances; and therefore we may conclude that some ameliorating power has been in operation to produce this result. In the climate itself no visible alteration has occurred: something may perhaps be attributed to a better knowledge of Indian diseases leading to correcter modes of cure; but the real secret will be found rather in their prevention altogether, affected not only by a decided improvement in the habits of individuals generally, but also by a more universal recognition of those physical laws which govern our whole frame. Granting then, according to the old proverb, that "the prevention of disease is better than its cure," we shall not perhaps find an aid in this attempt more positive and agreeable in its nature than by seeking change of air: and what localities so conducive to this end as those approximating in many of their physical conditions to our own native land—and hill stations will be found possessing these desiderata in an eminent degree under certain restrictions. What these may be, we will briefly hint at. The period that has fallen under meteorological observations, has been from November to the end of June—a total of eight months, the mean temperature of which was found to be 71°. The hottest months were April and May; giving a mean of 83°. The coldest January and February; having a mean of 59°; thus shewing a range of 24° between the hottest and coldest months. The coldest day was observed to be on the 9th of February at sun-rise, namely 47°. The hottest day noticed was the 27th of April, at 2 P. M., being 96°. Between the extremes of heat and cold, there was a range therefore of 49°. The greatest monthly range was 30°, occurring in March. The least in November, being 14°. The greatest diurnal range was 22° in April and May. The least in February, when it was 4°; and in June 5°. The real degree of temperature present is never correctly indicated by our feelings, being in fact far greater than it appears to us; this deceptive feeling arising from the elasticity of the rarified atmosphere causing a mobility of its particles, which carries off the heat of the body as rapidly as it approaches to the surface: hence its liability to produce attacks of rheumatism, or what is worse, visceral congestions, where a due regard to restraining the too sudden abstraction of heat, by wearing flannel, is not attended to. The currency of this expansive atmosphere produces all the buoyant and refreshing sensations of a sea breeze, but unless as above guarded, it is apt to prove a treacherous luxury. A remarkable phenomenon occurs here in the regularity with which the morning and evening breeze sets in during the hot weather; blowing alternately from opposite directions with all the regularity of a tropical land and sea wind. Two hours after sun-rise, we observe the breeze blowing strongly towards the plains of Berar—from the reverberations of their heated surfaces causing the air to expand and rise, and the colder air rushes to supply the loss. Shortly after the sun goes down, the breeze is seen blowing towards

the mountains, solar radiation now affecting, through the night, the same results upon the hills as reverberation did during the day upon the plains. Judging from the tendency of all the larger trees to bend to the S. E., it is obvious the prevailing wind is from the N. W.

The average depression of the wet bulb during the hot months was 10°. The rains set in about the middle of June, generally preceded by thunder storms, and showers, making the atmosphere cool and delightful in the intervals between; and ceasing the middle of September. The only two months the rain-guage nas been employed has been for the months of June and July, when 35 inches were found to have fallen. Heavy dews occur from the end of the rains till the commencement of the cold weather: as the hot weather approaches, the air is getting dry and parching, loses its bright transparent character, and by the time the hot season has arrived has become hazy and lurid.

A temporary sojourn on these hills has been found productive of the most salutary effects to invalids, more particulary those labouring under the peculiar conditions of deranged health induced by the miasmatic fevers of the plains; the leading features of which are a low tone of the nervous system, accompanied frequently with a relaxed condition of the mucous surfaces, and solids in general; the impaired action of the excretory, secretory and assimilative functions, inducing passive congestions, and obstructions; and it is in these cases that the change will be seen exerting its best results. The invigorating and exhilirating air of the hills endows the blood with exciting properties, imparting an irritability to the nervous system which arouses the brain to a healthful vigour, that re-acts upon the bodily functions with corresponding energy; and providing we have no organic lesions to contend with, or mucous membranes disposed to become irritable, we shall find a residence here quickly and surely restoring the lost powers of the constitution to their former tone and action. The delicate organization of European children within the tropics, is found to be acutely susceptible to every meteorological variation: the child when removed to these heights, appears to gain a hardihood of constitution near akin to that obtained in more temperate climes. The pallid complexion and listless apathy quickly are replaced by rosy cheeks, and bounding spirits. Were it possible for the earlier periods of childhood to be passed at these hill stations, we should find those physical evils which now press so severely upon the progeny of Europeans no longer to be complained of; and in many instances obviating the cruel necessity that often exists for the premature separation of the child from its parents in this country. Such benefits as are derivable from these sources, are to be obtained in an eminent degree at the charming little SANATORIUM OF CHIKULDAH.

W. H. BRADLEY,
Assistant Surgeon, attached to the Nizam's Army.

ABSTRACT OF THERMOMETRICAL OBSERVATIONS
MADE AT CHIKULDAH AND ELLICHPOOR SIMULTANEOUSLY. 1843—1844.

Months.	Chikuldah. Thermometrical Range. Monthly Range. Max. & Min.	Range.	Greatest Range in 24 hours. Max. & Min.	Range.	Least Range in 24 hours. Max. & Min.	Range.	Mean.	Mean Depression of Wet Bulb.	Prevailing Winds.	Ellichpoor. Thermometrical Range. Monthly Range. Max. & Min.	Range.	Greatest Range in 24 hours. Max. & Min.	Range.	Least Range in 24 hours. Max. & Min.	Range.	Mean.	Mean Depression of Wet Bulb.	Prevailing Winds.
November, 1843....	74° / 60°	14°	74° / 60°	14	73° / 62°	11°	67°	„	S. W.	86° / 52°	34°	86° / 54°	32°	83° / 72°	11°	69°	65°	N. W.
December.....	72° / 54°	18°	68° / 54°	14°	66° / 60°	8°	63°	„	N. W	82° / 50°	32°	82° / 56°	26°	78° / 68°	10°	66°	60°	N. E.
January, 1844.....	73° / 50°	23°	69° / 54°	15°	65° / 55°	10°	60°	„	S.	83° / 50°	33°	77° / 52°	25°	77° / 63°	14°	66°	63°	N. W.
February.....	71° / 47°	24°	71° / 59°	12°	63° / 59°	4°	59°	„	S.	91° / 56°	35°	89° / 62°	27°	73° / 67°	6°	73°	66°	N. W.
March.....	91° / 61°	30°	80° / 61°	19°	76° / 68°	8°	76°	71°	S. W.	102° / 67°	35°	97° / 70°	27°	91° / 79°	12°	84°	76°	N. W.
April.....	96° / 71°	25°	96° / 74°	22°	94° / 81°	13°	83°	73°	N.	106° / 78°	28°	106° / 84°	22°	98° / 86°	12°	92°	79°	N. W.
May.....	96° / 71°	25°	96° / 74°	22°	91° / 81°	10°	83°	72°	N. W	107° / 84°	23°	104° / 84°	20°	100° / 90°	10°	95°	84°	N. W.
June.....	91° / 67°	24°	91° / 76°	15°	76° / 71°	5°	78°	74°	N. W.	103° / 78°	25°	96° / 78°	18°	86° / 81°	5°	90°	84°	N. W.

Remarks on the Alla Bund, and on the drainage of the Eastern part of the Scinde Basin; with Meteorological Observations at Kurrachee in Scinde, from 1st May to 13th October 1844, *and Meteorogical Observations of Sukkur, and Register of a Watergauge in the Indus, from 1st May to 30th September* 1844. By Captain W. E. BAKER, Bengal Engineers, Superintendent of Canals and Forests in Scinde.

[Communicated by the Author.]

THE Koree or Luckput creek has been called the eastern mouth of the Indus, and there are two channels through which it once received the waters of that River, viz. the Narra, which commencing to exist as a defined channel about the latitude of Roree, flows nearly south, skirting the desert to near Oomurkote, from whence it takes the name of "the Pooruun;" and 2nd, the "Goonee," which under the name "Fulailee," leaves the Indus near Meanee seven or eight miles above Hydrabad, and formerly joined the Pooraun twenty-six miles north of where the Alla Bund now crosses that channel.

The Eastern Narra has long ceased to flow as a branch of the Indus, probably since that river, deserting the passage through the rocks at Alore, took to its present channel between Roree and Sukkur. It has now no direct communication with the river, but receives a precarious supply of water from a remarkable depression which runs parallel with the Indus, to the eastward, from above Bahawulpoor; and being considerably lower than the flood height of the river, receives a good deal of water from it, through canals, and by direct overflow. The drainage of this natural hollow is collected in the Narra, but except under extraordinary circumstances, (as in 1826) is seldom in sufficient quantity to reach the Alla Bund.

The Goonee being directly fed from the Indus, would have proved a more certain source of supply had not its channel been obstructed by a series of Bunds thrown across it by the Ameers of Scinde, both of the Kulhora and of the Talpoora dynasties.

The effect of these natural and artificial obstructions has been to ruin a tract of country bordering the Koree, which was once the most fertile in Kutch, and in the hope of recovering so great a loss, the Rulers of that province made a reference to the Governor of Scinde, who deputed me in July last to enquire into, and report upon, the causes which led to it.

Having obtained permission of H. E. the Governor of Scinde to communicate to the Bombay Geographical Society the result of my enquiries, I annex a copy of a map and profile, which I made on that occasion, and subjoin a few remarks (chiefly extracts from my report) which may serve to explain them.

The "Goonee," a branch of the Indus, as mentioned above, is nearly dry during the cold weather, but carries a considerable body of water during the inundations. Throughout the course of this river

its banks are intersected by canals, through which the water is drawn off for the irrigation of the adjacent lands. Many of these canals are of considerable size and are navigated by boats, constituting in fact the high roads of the country for the conveyance of grain, which is seldom carried in any quantity by other means. By this process of exhaustion the Goonee is reduced to small dimensions before it reaches the Kaimpon district (about sixty-seven miles east and eight miles south of Tatta,) where it divides into four branches, of which the most westerly, under the name of the "Great Goonee," flows to the Kuddun district; the second, an artificial canal, called the Aliwah, passing west of the villages of Nunda Shahur and Mittee, joins the Pooraun at Chuttee Tur; the third, called the Sherewah, after following a parallel course with the second, to near Nunda Amhur, joins the little Goonee, and crossing it, sends a small branch in the direction of Wanga Bazar; the fourth, or little Goonee, passes East of Nunda Shahur to Mora, and five miles south of that village falls into the Pooraun.

The Pooraun, from the junction of the Goonee to Lallah Puttun, has a well-defined channel twelve to twenty feet deep and 600 to 1200 feet wide, and is hedged in by sand hills on both sides. The greater part of the channel is clear, but it is obstructed artificially by bunds, and naturally by sand drifts: in these localities, the bed is choked up with a dense jungle of tamarisk. Beyond Lallah Puttun the channel is occupied by a chain of pools of salt water, and is partially separated from the Lindree Lake by the Alla Bund.

The Bunds across the Goonee and Pooraun are as follows:—

The Mora Bund, the Bunds at Chuttee Tur and three miles below it, the Bunds of Alli Bunder and Lallah Puttun, and the Alla Bund.

The Mora Bunds are on the Goonee. The first or original embankment is supposed to have been constructed in 1762 by Meer Goolam Shah Kulhora: it bears marks of having been frequently breached or turned. The second Bund, about half a mile S. E. of the first, is across a ravine falling into the Goonee, and appears to have become necessary when the original Bund was turned by some unusual accumulation of water. The pond formed by the second Bund feeds a small canal flowing southward, and has also another natural outlet which falls into the Pooraun.

The Bunds at and below Chuttee Tur are across the Pooraun: they have had the mischievous effect of encouraging large deposits of salt at their several localities, and of rendering the onward progress of the water still more precarious. On the other hand, they retain pools of fresh water for the use of the scanty population and their cattle, and favor the cultivation of the open spaces in the bed of the river.

The Alli Bunder and Lallah Puttun Bunds have produced effects similar to those above described, and have at different times served the

METEOROLOGICAL OBSERVATIONS AT KURRACHEE DURING THE MONTH OF JUNE, 1844.

Days	Observations at Daybreak. Barometer.	Thermometer. Attached.	Detached.	Wet Bulb.	Winds.		Observations at Noon. Barometer.	Thermometer. Attached.	Detached.	Wet Bulb.	Winds.		Observations at 9 P. M. Barometer.	Thermometer. Attached.	Detached.	Wet Bulb.	Winds.		Rain. Inches	Remarks.
1	29·379	82·30	83·00	80·75	W.	Lt.	29·37	85·50	86·5	34·0	W. S. W.	Str	29·31·	84·25	84·75	81·	W. S. W.	Lt.		A few clouds.
2	29·325	83·00	83·60	81·25	W.	Lt.	29·330	85·75	86·75	44·5	W. S. W.	Str	9·315	84·75	85·5	82·75	W.	Lt.		A few clouds in Horizon.
3	29·303	82 50	83·75	81·00	W. by S.	Lt.	9 312	86 00	86·75	44·25	W. S. W.	Str	29·267	84·75	85·5	82·75	W. S. W.	Lt.		Clear.
4	29·221	82·80	83·30	80·25	W. by S.	Lt.	29 22[illegible]	86·25	86 80	43·	W. S. W.	Str.	29·214	84 80	85·3	82·	W.	Lt		Cloudy.
5	29·216	83 60	84·33	81·50	W. by S.	Lt.	29 23	86·30	87·25	43·75	S W.	Mod	29·233	85·75	86·5	83·	W.	Lt		Do. Morning and Evening.
6	29·227	82·75	83 25	80·50	W by S.	Lt.	29 280	86 75	87 75	45·	W.	Str.	29·337	84·5	85·	81·	W.	Lt.		Clear Evening.
7	29·321	83·00	83·50	80·75	W. by S.	Lt.	29·347	85·75	86·5	43·	W.	Str	29·430	83 75	84·5	82·	W by N.	Lt		Light clouds Morning A few clouds. Clear over head.
8	29·346	82·20	82 80	80·75	W.	Lt.	29·336	85·3	86·3	33·25	W.	Str	29·366	83·60	84·25	81·25	W.	Lt		Very cloudy Morning.
9	29·353	81·8	82·2	80·	W. by N.	Lt.	29·364	84 75	85·7	43·	W. by S.	Str	29·364	84·7	84 25	82·25	W.	Lt.		Light clouds. Clear day.
10	29·348	81·3	82 2	80·75	W.	Lt	29·354	85·75	86·5	43·75	W. by S.	Mod	29·347	84 2	84·8	82·5	W. S. W.	Lt.		Do Do. Cloudy.
11	29·333	82·8	83·5	80·75	W. S. W.	Lt.	29·362	85·3	86·3	33·	W. S. W.	Mod.	29·386	84 5	85·	82·	W. by S.	Lt.		Partial clouds. Overclouded. A few clouds.
12	29·373	83·	83·	81·	W. S. W.	Lt.	29·434	85 6	86·6	43·	W. by S.	Str	29·436	84·6	85·4	81·5	W by S.	Lt		Do. Clear. Clear.
13	29 430	83·	83 6	81·	W. by N.	Lt.	29·474	85·8	87·0	42·75	S. W.	Mod	9 468	85·2	85 75	82·	W. by S.	Lt		Light clouds. Do. Partial clouds.
14	29·446	83·	83·75	80·75	W. by N.	Lt.	29·452	85 75	86·5	43·25	W. by S.	Str	29·42[illegible]	84·3	84·8	81·75	W. by S.	Lt		Cloudy. A few clouds. Do.
15	29·413	83·	83.5	81·	W. by S.	Lt.	29·413	85·75	86·5	43·5	S. W.	Str	29·386	84·3	84·8	82·	S. W.	Mod		A few clouds. Light clouds. Cloudy.
16	29·381	83·3	84·	81·	W. by S.	Lt.	29·385	85·8	86·6	33·75	W. by S.	Mod	29·375	84·6	85·2	82·	S. W. by S.	Mod.		Cloudy. A few Do. Do. A few clouds.
17	29 371	82·6	83·	80·25	W.	Lt	29·488	85 5	86·5	42·5	W. S. W.	Str	29·41[illegible]	84·7	85·5	81·5	W. by S.	Lt.		Clear. Clear. Clear.
18	29·406	82·75	83·6	80·5	W. by N.	Lt.	29·420	87·	87·9	44·5	W. by S.	Str.	29·434	85·6	86·5	82·25	W by N.	Lt		Do. Do. Do.
19	29·409	83·2	83·6	80·75	W. by N.	Lt	29·413	87·2	88·	44·75	W.	Mod	29·402	84·8	85·5	82·	W.	Lt		Do. Do. Do.
20	29·393	82·	82·5	80·	W.	Lt.	29 407	86·8	86 8	43·75	W. by S.	Mod	29·395	84·8	85·2	81·75	W. by S.	Lt.		Do. Do. Do.
21	29·387	83·	83·4	80·75	W. by S.	Lt.	29·374	86·3	87·2	33·75	W. by S.	Str	29·335	84 3	85·	81·75	W. S.W.	Lt.		A few light clouds. A few clouds. A few light clouds.
22	29·327	83·	83·6	81·	W.	Lt	29·320	85·75	86 5	43·5	W. S. W.	Str	29·325	84 75	85·3	82·75	W. by N.	Lt.		Cloudy. A few clouds. Cloudy.
23	29·315	85·75	84·2	82·	W.	Lt.	29·324	86·75	87 6	44·25	W. S. W.	Str.	29·311	84 7.	85·5	82·5	W. by N.	Lt.		Do. Light clouds. Do.
24	29·303	83·6	84·2	81·75	W. by S.	Lt.	29·308	86·00	86 75	44·00	S. w. by S.	Str.	29·298	84·2	84·75	81·75	W. by N.	Lt.		Do. A few light clouds. A few clouds.
25	29·291	82·75	83·3	81·	W.	Lt	29·316	85·75	86·5	42·75	W. by S.	Str	9·221	83·5	84·	80·75	W.	Lt.		Cloudy. Do. Partial heavy clouds.
26	29·328	82·	82·5	79 75	W. by S.	Mod.	29·341	84·8	85 8	42·25	W by S.	Str	29·317	83·	83·3	80·25	W.	Lt.		Do. Clear. Light clouds.
27	29·303	81·75	82·2	79·25	W. by S.	Lt	29·304	84·2	85 2	41 5	W. by S.	Str	29·274	83·75	84·	81·	W.	Lt.		Do. Do. Cloudy.
28	29·222	82·75	83·5	80·5	W.	Lt.	29·218	85·	85·75	43·	W. by S.	Mod	29·185	84·3	84·8	82·	W. S. W.	Lt.		Do. Light clouds. Do.
29	29·180	83·6	84·	81·25	W. S. W.	Lt.	29·197	85·5	86 3	43·75	S. W.	Lt	29·266	85 6	86·	83·6	S. by E.	Lt.		Light clouds. Clear. A few clouds.
30	29·292	84·8	85·2	83·	S.	Lt.	29·326	86·75	87·5	44·75	S.	Lt	29·325	86 5	85·8	83·75	S. by W.	Lt.		Clouds in Horizon. Clear. Clear (corona

No Rain this month.

W. E. BAKER, *Captain.*

METEOROLOGICAL OBSERVATIONS at KURRACHEE during the month of July, 1844.

Days.	Observations at Daybreak.					Observations at Noon.					Observations at 9 P. M.					Rain, Inches.	Remarks.
	Barometer.	Thermometer. Attached.	Detached.	Wet Bulb.	Winds.	Barometer.	Thermometer. Attached.	Detached	Wet Bulb.	Winds.	Barometer.	Thermometer Attached.	Detached.	Wet Bulb	Winds.		
1	29·326	84°	84·5	2°	S. W. Lt.	29·336	86.	86·8	81 75	W. by S. Str Gs.	29·345	84·3	84 8	81·75	W. Lt		A few lt. clds. Clear A few clds.
2	29 344	83°	83·5	81·5	W. S. W. Lt.	29 348	85·2	86°	82 75	W. S. W. Mod.	29·358	83 8	84·2	81°	W. S. W. Lt.		Clear. Cloudy. Cloudy.
3	29·343	82·5	84°	80°	W. by N. Mod.	29·340	85·2	86°	82°	W. Str	29·324	83·8	84·3	80·75	W. by S. Lt.		Light clouds. Light clouds Do.
4	29 300	82·2	83°	79 75	W. Mod	29 305	84·75	85·5	81 75	W. Str.	29·266	83·3	84°	80·75	W. Lt.		A few clds Cloudy Partial clds.
5	29·228	82·2	82 8	80.	W. by S. Lt. Gts	29·265	85°	86°	82·75	W. by S. Str.	29·266	83 8	84·5	81·5	W. by S. Lt.		Clouds. Clear. Cloudy, a few drops of rain.
6	29·268	82·5	83·2	80°	W. by N. Lt.	29·307	85·3	86 5	82°	W. Str.	29 326	84 3	85°	82°	W. by S. Lt.		Do. Do. Cloudy.
7	29·327	82·6	83·5	80·25	W. by N. Lt	29 347	85°	85 75	82·25	W. Str.	29·315	84·5	84 2	80·5	W. Lt.		Partial clouds. Cloudy. Clouds in the Horizon.
8	29·305	82·5	83.	80	W. by N. Lt.	29 306	84·9	86°	82°	W. Str.	29·289	83 9	84·6	81·5	W. Lt		Cloudy A few clds. Clear zenith.
9	29·285	82 6	83°	9·7	W. by N. Lt.	29·309	84·5	85 5	81·75	W. Str.	29·310	83·6	84 3	81°	W. by S. Lt		Do. Light clds. clouds in Hor.
10	29·302	81·9	82·7	79	N. N. W Lt.	29 33	84·2	85·2	81·25	W. by N. Str.	29·331	84·2	84·8	81°	W. Lt.		Clds, thin stratus in z. Do. Cloudy
11	29·328	82 6	83°	80 25	W. Lt.	29·33	84°	84·8	82·25	W. Mod.	29·307	83 9	84·6	81·75	W by S. Lt.		Cloudy. Do. Hazy.
12	27·282	82°	82·8	80°	W. Lt	29·287	85°	85 8	82°	W. by S. Mod.	29·278	84 8	85·5	82°	S. W. Lt.		Do. Partial clds. Partial clouds a few drops of rain.
13	29·262	83·8	84·5	81·5	W. Lt	29·272	85·8	86·8	83·75	S. W. Mod.	29·301	84·8	85·6	82·25	W. by S. Lt		Do. Clear. A few clouds.
14	29·313	84°	84·6	81·75	W. by N. Lt.	29·322	86·3	87·2	83°	W. by S. Mod.	29·375	83·8	84·6	81·75	W. Lt.	1·542	Do. a few drops of rain. Cloudy, a lit shr. Overclouded, rain.
15	29·341	81·9	82·8	80°	N. W. Lt.	29·372	84·3	85°	82°	N. W. Lt	29·394	83°	83·9	81·25	N. W. Lt	0·040	Cldy. Lt. clds 2 P M. overclouded, light rain, lightning N. W.
16	29·374	81°	81 6	79·25	N. W. Mod	29 389	82·6	83·5	80·75	W. Lt.	29·381	81°	81·8	79·75	W. by N. Lt.	0·716	Do. a little rain, heavy rain 9 A.M. noon fair, cloudy. Clouds.
17	29·379	80·2	80 8	79°	W. by S. Lt.	29·375	83 6	84 5	81·5	W. by S. Mod	29·340	81·25	82°	79·5	W. by S. Lt.		Lt. clds. A few lt clds. Partial clds.
18	29·330	79·8	80·5	78 5	W. by S. Lt	29·338	83°	83·8	80°	W. Mod.	29 329	81 75	82·6	79·5	W. by N. Lt		Cloudy. Lt. clds. Cloudy.
19	29 329	80°	80·7	79°	W. by N. Lt.	29·365	84 3	85 2	80 75	W. Mod.	29·387	82·5	83·2	80°	W. by N. Lt.		A few lt. clds. Clear. Light clds.
20	29·400	80 75	81·5	78·75	N. by N. Lt	29 42	85 2	87·2	81·75	W. Mod.	29 457	82·75	83·5	80°	W. Lt.		Lt. clds. Do. Cloudy Horizon.
21	9 442	81	81·5	78·5	W. by N. Lt	29 44	85°	85·75	81	W. by S. Mod.	29·416	82 5	83·2	79·75	W. N. W. Lt.		Do. A few lt. clouds. Cloudy.
22	29·391	80·8	81·6	78 5	W by N. Lt.	29·386	84 75	85 75	80°	W. Mod	29·360	82·3	83	79·25	W. Lt		Cloudy. Clear. A few clouds.
23	29 338	80·5	81·25	79·25	W. N. W. Lt.	29 344	84·6	85·5	80 75	W. Str	29·404	82·6	83·2	80°	N. W. Lt.		Do. Do. Cloudy. a shower 11 P.M.
24	29 353	81 8	82·6	79 5	N. W. Lt.	29 347	84·6	85 5	80 75	W. by S. Mod	29·356	82 2	82 8	79·5	W. by N. Lt	0·020	Do. rain. Lt. clds. Cloudy.
25	29·347	81.2	82°	79 25	W. by N. Lt.	29 357	85·2	86·2	81 8	W. S. W. Mod.	29·400	83·2	84°	81°	W. by N. Lt.		Cloudy, A few ld. clds. Clear.
26	29·389	81 2	81·8	80°	W. Lt.	29 386	85·6	86 5	83·75	W. Str.	29 347	81 8	82·5	81·5	W. by S. Mod.		Clear. Do. do. Cloudy Horizon.
27	29·302	80·25	80·8	77·5	W. S. W. Mod.	29·300	81·8	82·6	79·5	W. Mod	29 254	81·8	82 6	80	W. by S. Lt.		Cloudy. Cloudy Cloudy.
28	29 205	81°	81·75	79·5	W. by S. Lt.	29·214	84·38	85·3	81·5	W. S. W. Mod	29·197	82·3	83·2	80·75	W. by S. Lt		Partial clds. Lt. clds. Passing heavy clouds.
29	29 188	81·6	82·5	80°	W. by S. Lt.	29·224	84·2	85·2	81°	W. S. W. Lt	29·261	82 6	83·5	80·75	W. S. W. Lt		Cloudy. Do. do. Clear.
30	29·276	81·8	82 8	79 75	W. by S. Lt.	29 358	84·75	85·75	80·75	W. Mod	29·359	83 2	84°	80·5	W. by N. Lt.		Do. Clear. Do.
31	29·386	81·2	82°	79°	N. W. Lt	29·402	85°	85·2	81°	W. Mod.	29 425	83·	83 8	80°	W by N. Lt.		Clear. Do D.

W. E. Baker, *Captain.*

METEOROLOGICAL OBSERVATIONS AT KURRACHEE DURING THE MONTH OF AUGUST, 1844.

Days.	Observations at Daybreak.					Observations at Noon.					Observations at 9 P. M.					Rain, Inches.	Remarks.
	Barometer.	Thermometer. Attached.	Thermometer. Detached.	Thermometer. Wet Bulb.	Winds.	Barometer.	Thermometer. Attached.	Thermometer. Detached.	Thermometer. Wet Bulb.	Winds.	Barometer.	Thermometer. Attached.	Thermometer. Detached.	Thermometer. Wet Bulb.	Winds.		
1	29·418	80·75	81·3	78·	W. N. W. Lt.	29·418	85·3	86·3	81·75	W. by N. Mod	29·40,	82·5	83·5	79 95	W. Lt.		Clear Clear Clear.
2	29·368	80·6	81·3	78·5	W. Lt.	29·368	82·6	83·5	80 7.	W. Mod.	29·32.	81·5	82·3	79·95	W. Mod.		A few Lt. clds. Lt. clouds. clouds.
3	29·313	80·3	81·	77·5	W. Lt.	29·325	82 5	83·5	79·5	W. S. W. Lt.	29·310	82	83·5	79·5	S. W. Lt		Cloudy do. do. Clear.
4	29·314	80 8	81·6	79·	W. Lt.	29·31.	83·2	84·	81·	W. S. W. Mod.	29·300	82·75	83·75	80·	W. by N. Lt.		Do. corona (do. do. Cloudy.
5	29·280	81·2	81·8	78·75	W. Lt.	29·289	83·8	84·8	79 75	W. Mod.	29·281	82 8	83·8	80·	W. by S. Lt.		Do. do. do. Overclouded.
6	29·260	81·5	82·3	79·	W. Lt.	29·262	84·3	85·2	81·5	W. Mod.	29·267	82·6	83 3	79·8	W. Lt.		Partial clouds. do. do. Cloudy.
7	29·259	81·2	82·2	78·75	W. by N. Lt.	29·303	84·8	85·6	81·	W. by S. Mod.	29.344	82·8	83·6	79 5	W. Lt.		Cloudy do. do. Cloudy Horizon.
8	29·344	81·5	82·3	78·25	W. by S. Lt.	29·383	84 3	85 3	80·5	W. by S. Mod	29·401	82·6	83·5	79 25	W. Lt.		Partial clds. clear A few heavy clds.
9	29·372	80·6	81·6	78·	W. by N. Lt.	29·377	84·	85·	80·75	W. Strong.	29·373	81·5	82·3	78·	W. by N. Lt.		A few heavy clds do. Partial heavy clouds.
10	29·357	80·	80·8	77·	W. by N. Lt.	29·361	83·2	84·2	80·	W. Strong	29·336	81·2	82·	78·25	W. by S. Lt.		Cloudy Light clouds Partial clouds.
11	29·358	79·8	80·6	77·5	W. by N. Lt	29·357	82·2	83·	78·25	W. Strong.	29·33.	80 6	81·5	78·	W. Lt.		Do. do. overclouded.
12	29·316	79·75	80·5	77·	W. by S. Mod.	29 314	81·2	82	79·	W. by S. Mod.	29·322	80·3	81·	78·3	W. by S. Lt		Do. A few drops of rain.
13	29·306	79·5	80 3	77·5	W. by S. Lt.	29·313	82·5	83·5	79·5	W. Mod.	29·320	81·	81·8	78·75	W. by S. Lt.		Cloudy Clear Cloudy.
14	29·331	79·6	80·5	78·	W. by S. Lt.	29·376	83·5	84·3	79·75	W. by S. Mod	29·362	81·5	82·3	78·75	W. Lt.		Do. A few light clouds. clear.
15	29·357	80·	81·	78·	W. Lt.	29·362	83·	84·	80·	W. Mod.	29 360	81·2	82·	79·	W. by N. Lt.	0·650	Clear do. do rain 7 P. M.
16	29·309	79·2	80·2	78·	W. by N. Lt.	29·372	78·8	79·5	77·5	W. Lt	29·356	79·2	80·	78·25	W. by N. Lt.	3·395	Cloudy. overclouded. heavy rain.
17	29·362	78·6	79·5	77·5	W. N. W. Lt.	29 413	82·2	83·2	80·75	W. by S. Lt.	29·424	80·1	80·8	79·	W. by S. Lt.		Do. Light clouds. clear.
18	29·436	78·75	79·5	77·5	W. Lt.	29 476	82·	83·	79·5	W. by S. Mod.	29 452	80	80·75	78·25	W. by S. Lt.		Cloudy. Horizon clear. A fewclouds.
19	29·420	79·	80·	77·5	W. Lt.	29·420	81·8	82·75	78·3	W. by S. Strong.	29·384	80·2	81·	78·	W. by Lt.		Partial clouds. Light clouds. cloudy.
20	29·376	78·75	79·5	76·5	W. Lt.	29·387	82 8	83·75	79·5	W. by S. Str	29·408	80·6	81·3	78·	W. by S. Lt		Cloudy. clear. A few heavy clouds.
21	29·400	78·75	79·75	76·5	W. Lt.	29·405	82·	83·	78·	W. by S. Str	29·406	81·	81·8	78·5	W. by S. Lt.		Cloudy Horizon clear. cloudy.
22	29·383	79·	79·8	76.5	W. Lt.	29·387	81·8	82·8	79·	W. Mod	29·417	80·3	81·2	78·	W. Lt.		Partial clouds. do. cloudy.
23	29·412	79·	79·7	77.	W. by S. Lt.	29·460	82·	83	77·	W. Mod	29 497	81·	81·8	79·	W. Lt.		Clds. in Horizon. A few Lt. clds. do.
24	29·488	79·6	80·5	77.5	W. Lt.	29 521	81·8	82·8	78·5	W. by S. Str	29·500	80·	80·8	77·75	W. by S. Lt.		A few do. do. Light clouds. clear.
25	29·453	78·8	79·8	77.	W. Lt.	29 457	79·3	80·3	78·	W. by S. Mod.	29·420	79·	79·8	77·	W. by S. Lt.	0·040	Cloudy a little rain. do. cloudy.
26	29·414	78·	78·8	76·25	W. Lt.	29·422	80 8	81·3	78·25	W. Str.	29·428	79·5	80·3	78·	W. by S. Lt.		Cloudy. Horizon do. A few lt. clds. in Horizon.
27	29·427	78·8	79·8	77.	W. Lt	29·473	81·2	82·2	77·75	W. by S. Mod.	29 500	79·9	80 6	77·75	W. by N. Lt.		Cloudy do. Light clouds.
28	29·494	77·9	78·6	75·75	W. Lt.	39·513	82·	82 9	78·	W. Mod	29·527	79·5	80·3	77·	W. by N. Lt.		A few light clds clear. A few lt. clds.
29	29·515	77·6	78·5	76·	W. by N. Lt.	29·516	80·5	81·5	77·75	W. by S. Mod	29·505	79·3	80·2	77·	W. by N. Lt.		Cloudy. Lt ,drizzling rain. Lt clds. clear.
30	29·493	78·5	79·3	77·	W. by N. Mod.	29·497	80·	80·9	77·5	W. by S. Mod	29 502	79·5	80·3	78·	W. Lt.	0·065	Cloudy Rain do. cloudy.
31	29·492	77·6	78·5	76·	W. by N. Lt.	29·495	80·3	81·3	78·5	W. Mod	29·476	79·75	80·6	77 5	W. Lt.	——	Clear do. do.
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W. E. BAKER, *Captain.*

METEOROLOGICAL OBSERVATIONS AT KURRACHEE DURING THE MONTH OF SEPTEMBER, 1844.

Days.	Observations at Daybreak.					Observations at Noon.					Observations at 9 P. M.					Rain, Inches.	Remarks.
	Barometer.	Thermometer. Attached.	Thermometer. Detached.	Thermometer. Wet bulb	Winds.	Barometer.	Thermometer. Attached.	Thermometer. Detached.	Thermometer. Wet bulb.	Winds.	Barometer.	Thermometer. Attached.	Thermometer. Detached.	Thermometer. Wet bulb.	Winds.		
1	29·450	77·5	78·3	76·	W. by S. Lt.	29·469	79·3	80·2	77	W. by S. Lt.	29·472	78·9	80·	77·	W. by N. Lt.	0·140	Overclouded, Lt. Rain. Lt. clds. clear.
2	29·468	77·5	78·3	75·75	W. Lt.	29·487	81·75	82·6	78·75	W. S. W. Lt.	29·488	79·9	80·75	77·25	W. Lt.		{ Clear do. Cloudy. { Horizon.
3	29·488	78·9	79·75	76·75	W. Lt	29·510	82·	83·	79·5	W. by S. Lt.	29·504	80·6	81·3	78·25	W. by N. Lt.		Cloudy. A few Lt. clds. cloudy.
4	29·493	79·5	81·2	77·75	W. Lt.	29·450	82·2	83·7	79·75	S. W. Lt	29·491	82·	82·75	80·	W. Lt.		Clear Clear A few clouds
5	29·445	80·5	81·5	79·2	W. Lt.	29·440	82·4	83·6	80·	S. W. by W. Lt.	29·440	83·4	84·5	81·8	W. S. W. Mod.		Do. do. do.
6	29·470	82·	83·	80·	W. by N. Lt	29·501	83·8	84·5	80·75	S. W. Mod	29·466	82·3	83·2	80·	W. Lt		Clouds in Horizon. do. do.
7	29·480	81·75	81·8	79·5	W. by N. Lt.	29·467	83·2	84·	81·25	W. by S. Mod	29·417	84·2	82·5	79·75	W. by S. Lt.		Clear. do. do.
8	29·490	79·5	80·3	78·25	W. by S. Lt.	29·404	83	84·5	80·5	S. W. Str	29·404	80·1	80·9	77·8	W. by S. Mod.		A few clds. do. Partial heavy clds.
9	29·404	78·8	79·6	76·5	W. by N. Lt.	29·453	81·75	82·75	79·	W. by S. Mod	29·485	80·6	81·3	78·25	W. Lt.		cloudy. Do. Cloudy.
10	29·402	79·3	80·3	77·5	W. by N. Lt	29·515	81·4	82·1	78·75	S. W. Mod	29·567	80·5	81·5	77·5	W. by N. Lt.		Do. Do. Do.
11	29·509	79·4	80·5	77·	W. by S. Lt.	29·547	82·6	83·2	78·	S. W. Mod	29·539	80·2	81·3	76·75	W. Lt.		Do. Light clds. Cldy. Horizon.
12	29·537	79·	80·	75·8	W. by S. Lt.	29·556	81·75	82·4	80·5	W. Mod	29·537	80·3	81·5	77·5	W by S. Lt		Do. Do. Cloudy.
13	29·556	79·	80·2	77·	W. Lt	29·607	81·2	82·	78	W. by S. Mod.	29·611	81·1	81·3	77·	W. by S. Lt		Cldy. Horizon. do. Partial clds.
14	29·605	78·75	79·75	75·75	W. Lt.	29·622	80·8	81·6	77·8	W. by S. Mod	29·609	79·6	80·75	76·75	W. by N. Lt.		Partial clds. do. do. Cldy Horizon.
15	29·568	79·	80·1	76·5	W. by N. Mod.	29·580	80·9	81·6	77·8	W. by S. Str.	29·555	80·	81·1	77·5	W. by S. Lt.		Cloudy. Clear. Clear Zenith.
16	29·508	78·6	79·75	76·	W. S. W. Lt.	29·517	81·75	82·3	79	W. by S. Mod.	29·509	80·	81·	77·5	W. Lt.		Partial clouds. do. Cloudy.
17	29·506	79·	80·	76·75	W. by S. Lt	29·511	81·4	82·2	79·	W. Mod	29·56	80·6	81·6	78·	W. Lt.		Cloudy. do. do.
18	29·555	79·75	80·75	78·	W. Lt.	29·568	82·	82·6	79·	W. by S. Mod	29·566	81·3	82·5	79·	W. Lt.		Do. A few lt. clds. Clds, in Horizon.
19	29·570	79·75	80·6	76·75	W. Mod.	29·565	82·2	83·4	79·3	W. by S. Mod	29·533	81·5	82·4	79·5	W. Mod.		Light clouds. Clear. Do. do.
20	29·578	80·3	81·5	78·	W. by S. Lt.	29·605	83·1	84·1	78·75	W. by S. Mod.	29·596	80·2	81·2	77·5	W. by S. Lt.		Cldy. Clear Zenith. do. A few clds.
21	29·595	78·9	79·6	75·75	W. Lt	29·669	82·4	83·5	78·	W. by S. Mod.	29·664	80·75	81·25	76·5	W. by S. Lt.		{ Partial Clouds. do. A few white { clouds. Clear Zenith.
22	29·659	79·3	79·2	74·75	W. Lt	29·669	82·1	83·4	77·	W. Mod.	29·642	79·2	80·	76·25	W. by S. Lt.		A few clouds. Do. Clear.
23	29·614	78·3	79·2	75·5	W. Lt.	29·656	81·75	82·75	77·5	W. by S. Mod.	29·654	79·	79·7	76·3	W. by S. Lt.		A few lt. clds. A few lt. clds. Lt. clds.
24	29·645	77·8	78·75	75·25	W. by N. Lt	29·663	80·8	81·8	77·75	W. Mod.	29·663	79·	79·8	76·5	W. by S. Lt.		Cloudy. Do. do. Do. do.
25	29·622	77·2	78·	74·75	W. by N. Lt	29·631	80·3	81·	78·	W. Str.	29·624	79·2	80·3	77·25	W. by N. Lt		A few clouds. Light Clds. Clear.
26	29·582	77·8	78·5	76·	W. by N. Lt.	29·586	83·3	84·	77·5	W. Mod	29·582	78·8	79·8	75·75	W. N. W. Lt.		Cloudy Clear. do.
27	29·572	74·8	75·6	72·75	W. by N. Lt.	29·630	78·8	79·4	73·	W. S. W. Lt	29·675	78·2	79·8	72·	W. N. W. Lt.		Clear, copious dew. do. do.
28	29·665	72·3	73·6	66·75	W. N. W. Lt.	29·717	80·4	81·	75·5	S. Lt.	29·700	81·2	82·4	74·5	W. N. W. Lt.		Clear. do. do.
29	29·694	75·75	77·	73·	S. by E. Lt.	29·707	83·6	84·5	79·5	W. by S. Lt.	29·700	81·2	82·5	79·	W. N. W. Lt.		Do. do. do.
30	29·691	76·5	77·4	74·25	W. N. W. Lt.	29·705	85·	86·6	79·75	W. Mod	29·637	81·	81·6	77·75	N. W. Lt		Do. do. do.

W. E. Baker, *Captain*

additional purpose of separating the fresh water from the salt, and preventing the latter from spreading further up the channel and injuring the land. The Bund at Alli Bundur was so employed in 1808—when it was visited by Captain R. M. Grindlay; and a reference to the accompanying profile will shew that it might be so again were the channel through the Alla Bund to be deepened, so as to admit the waters of the Lindree Lake to flow back up the channel.

The Alla Bund or "Embankment of God," as is well known was thrown up by an earthquake in 1819, the same convulsion of nature having destroyed the flourishing town of Lindree in Kutch, and depressed a large tract of land in its vicinity, which, being filled with salt water through the Luckput creek, now forms an extensive lake. This mound at first appeared calculated to cut off for ever the fertilizing streams of the Indus from the province of Kutch, but in 1826 an extraordinary flood passed down the Narra or Pooraun, and forcing for itself a narrow passage through the Alla Bund, found its way into the Lindree Lake. In March 1827, the spot was visited by Sir Alexander Burnes, and subsequently in August 1828. He describes the channel as $2\frac{1}{2}$ fathoms deep, and on both occasions as conveying a stream of fresh water into the lake: since that period, however, it appears to have filled up so much (probably from the falling in of the sides) that is in now dry in some places, and being one foot higher than the level of the lake, and seven feet above that of the salt water pools of the Pooraun, it forms a barrier between them. The Mound, where it is cut through by the Pooraun, is nearly four miles in width, but in other places is said to vary from two to eight miles. Its greatest height is on the borders of the lake, above the level of whose waters (on the 11th July 1844) it rises twenty and a half feet. From this elevation it gradually slopes to the northward till it becomes undistinguishable from the plain. On the surface of the mound, the soil is light and crumbling, and strongly impregnated with salt: at the depth of one and a quarter to two feet it has more consistency, and is mixed with shells such as are now found abundantly on the shores of the lake. The length of the Alla Bund has not been ascertained, but it is said by the natives to extend fifty or sixty miles to the eastward. The Lindree lake, though of inconsiderable depth near the shore, appears to be of great extent. From the elevation of the Bund, no land could be seen across it, even with the aid of a telescope, and the ruined Fort of Lindree, which still lifts its head above the waters, alone breaks the uniformity of their surface. It was asserted, however, by an agent of the Kutch Government (and with much show of probability,) that the level of the water is much raised, and its extent increased, during the prevalence of the Southwest monsoon, which drives the sea water up the Koree into the lake; and that on the setting in of the north winds, a large proportion of the present expanse of water would become dry land. It is highly desirable that the extent of the Lindree Lake and of the Alla Bund should be accurately traced, but the survey would be a work of difficulty, in consequence of the barren nature of the country, and of the total want of fresh water.

W. E. Baker,
Captain, Bengal Engineers.

October 21st, 1844.

METEOROLOGICAL OBSERVATIONS AT KURRACHEE DURING THE MONTH OF MAY, 1844.

Days.	Observations at Daybreak.					Observations at Noon.					Observations at 9 P. M.					Inches.	Remarks.
	Barometer.	Thermometer. Attached.	Detached.	Wet bulb.	Winds.	Barometer.	Thermometer. Attached.	Detached.	Wet bulb.	Winds.	Barometer.	Thermometer. Attached.	Detached.	Wet bulb.	Winds.	Rain.	
1	29·540	81·	81·75	79·	Calm.	29·546	84·5	85·5	81·5	W. by S.	*29·530	82·75	83·	80·	E. by S. Lt.		*Taken at 11 P. M. Clear during day. Cloudy at sunset.
2	29·510	81·2	81·5	79·	N. by W. Lt.	29·504	84·75	85·75	82·	W. by N.	29·471	84·00	86·	82·	S. by W. Lt.		Cloudy morning. Clear all day. Cloudy evening.
3	29·471	82·5	83.	80·2	N. W. Lt.	29 513	85·75	86·50	83·5	W. by S. Mod.	29·540	84·25	85·75	82·	S. W. Lt.		Do. Do. Do.
4	29·537	81·	82·	79·5	W. Lt	29·615	86·2	86·50	83·75	W. by S. Mod.	29·663	84·75	86·	83·	W. by S. Lt.		Clear morning. Clear all day. A few clouds in evening.
5	29.677	82·5	83·6	80 75	W. Lt	29·586	86·25	86·25	84·30	W. Strong.	29·550	85·60	86·75	81·75	W. by N. Lt.		Do. Do. Clear evening.
6	29·511	83·0	84·2	80·00	N. W. Lt.	29·507	87·75	87·75	79·75	W. by S. Str.	29·500	85·75	87·50	81·00	N. W. Mod.		Do. Do. Do.
7	29·485	82·5	83·7	79 00	W. Lt.	29·493	88·50	88·75	84·25	W. by S.	29 494	84 50	86·25	81·00	N. W. Lt.		Do. Do. Do.
8	29·476	81·2	82·2	78·60	S. W. Lt.	29·524	86·60	87·20	84·00	W. by S.	29·524	84·00	84·75	82 00	W. Lt.		Do. Do. Do.
9	29·517	80·5	81·4	79·0	S. W. Lt.	29 526	86·20	86·75	83·80	W. S. W. Mod.	29·502	83 80	85·20	81 75	W. Lt.		Do. Do. Do.
10	29·493	81·0	81·6	79·3	W. S. W. Lt	29·515	85·60	86·00	82·75	W. by S. Mod.	29·520	83·2	84·25	80 00	W. Lt.		Do. Do. Light clouds to westd.
11	29·510	81·0	81·5	78·5	N. by W. Lt.	29·569	84·70	85·50	81·50	W. by S.	29·555	83·25	84·25	80·00	W. Lt		Light clouds morning. Do. Cloudy.
12	29·545	81·2	81·7	78·0	S. W. Lt.	29·594	85·00	85·60	81·50	W. by S. Str.	29·563	84·00	83·50	80·75	W. by N. Lt.		Do. Do. Do.
13	29·539	82·25	83·00	80·25	W. by S. Lt.	29 569	85 75	86·50	83·00	W. by S. Str.	29 545	83·50	84 00	80 50	W. Lt.		Do.
14	29·519	82·25	83·00	80 00	W. by S. Lt.	29·548	85·75	86·50	81·50	W. by S. Str.	29·569	83 75	84 50	81·00	W. Lt.		Do.
15	29·543	82 00	82·75	80·00	W. It.	29 552	85·30	86 20	82·50	W. Str.	29·562	84·00	84·75	81·50	N. W. Lt.		Do.
16	29·548	81 75	82 50	79·50	W. by S. Lt.	29·552	85·60	86·50	83·50	W. by S. Str.	29·531	83 50	84·00	80·00	W. Lt.		
17	29·498	82·00	82 75	79·50	W. by S. Lt.	29·519	85·75	86·75	83·25	W. by S. Str.	29 523	83·80	84·50	81 00	W. Lt.		A few clouds.
18	29·517	82·20	83·00	79·75	W. S. W. Lt.	29·569	85·50	86·60	82·00	W. by S. Mod.	29·553	84 50	84·25	81·00	N. W. Lt.		Clear.
19	29·534	81·75	82·50	79·50	W. by S. Lt.	29·539	85·60	86·50	83·00	W. by S. Str	29 526	83 80	84·50	80·50	W. Mod		Clear.
20	29·482	82·50	83·25	80·00	W. Lt.	29·491	85·75	86·75	83 00	W. by S. Str.	29 478	83·75	84·25	82 00	S. W. Lt		Clouds.
21	29·448	82·20	82·75	80·75	W Lt.	29·469	85·50	86·50	84·00	W. S. W. Str	29·475	84·00	84 60	82 20	W. Lt		Do.
22	29·444	82·75	83·50	80·60	W. Lt	29·482	85 20	86 00	83·25	W. by S. Str	29·465	83·80	84 30	82·00	W. Lt.		Do. Clear.
23	29·461	82·75	83 50	80·20	W. by S. Lt	29·464	85·50	86 50	83·50	W. S W. Str.	29·431	83·60	84 00	81·00	W. by N. Lt.		
24	29·415	82·00	82 75	80 00	W. S. W. Lt.	29·424	85 75	86·50	83·75	W. S. W. Str.	29·400	82·75	83·50	80 75	W. Lt.		Clear day.
25	29·391	80·75	81·50	78·75	W. by N. Mod.	29·396	85·00	86·00	82·50	W. Str.	29·385	83·25	83 75	80 75	W. N. W. Lt		
26	29·371	82·00	82·50	80·00	W. Mod.	9·369	85·30	86 30	84·00	W. by S. Str.	29 348	83·75	84·00	81·50	W. Lt.		Clear.
27	29·321	81·75	82·75	80·00	W. by S. Lt.	9 345	85·60	86·75	84 00	W. by S. Str.	29 343	83 80	84·30	81·50	W. by S. Lt.		Do.
28	29·335	82·25	83·00	80·00	W. Lt.	29·402	85·75	86 60	83 75	W. Str.	29·406	83 75	84·50	81·75	W. by N. Mod.		Do.
29	29·441	82·75	83·00	80·75	W. Lt.	29·404	85·50	86 75	83 25	W. by S. Str.	29 490	83·75	84 30	81 50	W. by S. Mod.		Do.
30	29·486	82·50	82·75	80·00	W. by N. Lt.	29·493	85·75	86·50	83·80	W. by S. Str.	29·456	83·75	84 30	81·75	W Lt		
31	29·444	82·00	82·50	80 50	W. Lt.	29·449	85 50	86 50	83·50	W. S. W. Str.	29 403	83 75	84·30	81·80	W. by S. Lt.		

No Rain this Month.

W. E. Baker, *Captain.*

METEOROLOGICAL OBSERVATIONS AT KURRACHEE DURING THE MONTH OF JUNE, 1844.

Days	Observations at Daybreak.					Observations at Noon.					Observations at 9 P. M.					Rain. Inches.	Remarks.
	Barometer.	Thermometer Attached.	Thermometer Detached.	Thermometer Wet Bulb.	Winds.	Barometer.	Thermometer Attached.	Thermometer Detached.	Thermometer Wet Bulb.	Winds.	Barometer.	Thermometer Attached.	Thermometer Detached.	Thermometer Wet Bulb.	Winds.		
1	29·379	82·30	83·00	80·75	W. Lt.	29·347	85·50	86·5	34·0	W. S. W. Str	29·311	84·25	84·75	81·	W. S. W. Lt.		A few clouds.
2	29·325	83·00	83·00	81·25	W. Lt.	29·330	85·75	86·75	84·5	W. S. W. Str	29·315	84·7	85·5	82·75	W. Lt.		A few clouds in Horizon.
3	29·303	82·50	83·75	81·00	W. by S. Lt.	9·312	86·00	86·75	84·25	W. S. W. Str	29·267	84·7	85·5	82·75	W. S. W. Lt.		Clear.
4	29·221	82·80	83·30	80·25	W. by S. Lt.	29·220	86·25	86·80	83·	W. S. W. Str.	29·214	84·8	85·3	82·	W. Lt		Cloudy.
5	29·216	83·00	84·33	81·50	W. by S. Lt.	29·23	86·30	87·25	83·75	S W. Mod	29·233	85·75	86·5	83·	W. Lt		Do. Morning and Evening.
6	29·227	82·75	83·25	80·50	W. by S. Lt.	29·280	86·75	87·75	85·	W. Str.	29·337	84·5	85·	81·	W. Lt.		Clear Evening.
7	29·321	83·00	83·50	80·75	W. by S. Lt.	29·347	85·75	86·5	83·	W. Str	29·430	83·75	84·5	82·	W by N. Lt		Light clouds Morning A few clouds. Clear over head.
8	29·346	82·20	82·80	80·75	W. Lt.	29·336	85·3	86·3	83·25	W. Str	29·366	83·60	84·25	81·25	W. Lt		Very cloudy Morning.
9	29·353	81·8	82·2	80·	W. by N. Lt.	29·364	84·75	85·7	83·	W. by S. Str	29·364	84·7	84·25	82·25	W. Lt.		Light clouds. Clear day.
10	29·348	81·3	82·2	80·75	W. Lt	29·354	85·75	86·5	83·75	W. by S. Mod	29·347	84·3	84·8	82·5	W. S. W. Lt.		Do Do. Cloudy.
11	29·333	82·8	83·5	80·75	W. S. W. Lt.	29·362	85·3	86·3	83·	W. S. W. Mod.	29·386	84·5	85·	82·	W. by S. Lt.		Partial clouds. Overclouded. A few clouds.
12	29·373	83·	83·	81·	W. S. W. Lt.	29·431	85·6	86·6	83·	W. by S. Str	29·436	84·6	85·4	81·5	W by S. Lt		Do. Clear. Clear.
13	29·430	83·	83·6	81·	W. by N. Lt.	29·474	85·8	87·0	82·75	S. W. Mod	9·468	85·2	85·75	82·	W. by S. Lt.		Light clouds. Do. Partial clouds.
14	29·446	83·	83·75	80·75	W. by N. Lt.	29·452	85·75	86·5	83·25	W. by S. Str	29·42·	84·3	84·8	81·75	W. by S. Lt		Cloudy. A few clouds. Do.
15	29·413	83·	83·5	81·	W. by S. Lt.	29·413	85·75	86·5	83·5	S. W. Str	29·380	84·3	84·8	82·	S. W. Mod		A few clouds. Light clouds. Cloudy.
16	29·381	83·3	84·	81·	W. by S. Lt.	29·395	85·8	86·6	83·75	W. by S. Mod	29·375	84·6	85·2	82·	S. W. by S. Mod.		Cloudy. A few Do. Do. A few clouds.
17	29·371	82·6	83·	80·25	W. Lt	29·488	85·5	86·5	82·5	W. S. W. Str	29·412	84·7	85·5	81·5	W. by S. Lt.		Clear. Clear. Clear.
18	29·406	82·75	83·6	80·5	W. by N. Lt.	29·420	87·	87·9	84·5	W. by S. Str.	29·434	85·6	86·5	82·25	W by N. Lt		Do. Do. Do.
19	29·409	83·2	83·6	80·75	W. by N. Lt	29·413	87·2	88·	84·75	W. Mod	29·402	84·8	85·5	82·	W. Lt		Do. Do. Do.
20	29·393	82·	82·5	80·	W. Lt.	29·407	86·8	86·8	83·7	W. by S. Mod	29·395	84·8	85·2	81·75	W. by S. Lt.		Do. Do. Do.
21	29·387	83·	83·4	80·75	W. by S. Lt.	29·374	86·3	87·2	83·75	W. by S. Str	29·335	84·3	85·	81·75	W. S. W. Lt.		A few light clouds. A few clouds. A few light clouds.
22	29·327	83·	83·6	81·	W. Lt	29·320	85·75	86·5	83·5	W. S. W. Str	29·325	84·75	85·3	82·75	W. by N. Lt.		Cloudy. A few clouds. Cloudy.
23	29·315	85·75	84·2	82·	W. Lt.	29·324	86·75	87·6	84·25	W. S. W. Str.	29·311	84·7.	85·5	82·5	W. by N. Lt.		Do. Light clouds. Do.
24	29·303	83·6	84·2	81·75	W. by S. Lt.	29·308	86·00	86·75	84·00	S. w. by S. Str.	29·298	84·2	84·75	81·75	W. by N. Lt.		Do. A few light clouds. A few clouds.
25	29·291	82·75	83·3	81·	W. Lt	29·316	85·75	86·5	82·75	W. by S. Str	29·221	83·5	84·	80·75	W. Lt.		Cloudy. Do. Partial heavy clouds.
26	29·328	82·	82·5	79·75	W. by S. Mod.	29·341	84·8	85·8	82·25	W. by S. Str	29·317	83·	84·3	80·25	W. Lt.		Do. Clear. Light clouds.
27	29·303	81·75	82·2	79·25	W. by S. Lt.	29·304	84·2	85·2	81·5	W. by S. Str	29·274	84·75	84·	81·	W. Lt.		Do. Do. Cloudy.
28	29·222	82·75	83·5	80·5	W. Lt.	29·218	85·	85·75	83·	W. by S. Mod	29·185	84·3	84·8	82·	W. S. W. Lt.		Do. Light clouds. Do.
29	29·180	83·6	84·	81·25	W. S. W. Lt.	29·197	85·5	86·3	83·75	S. W. Lt	29·266	85·6	85·	83·6	S. by E. Lt.		Light clouds. Clear. A few clouds.
30	29·292	84·8	85·2	83·	S. Lt.	29·326	86·75	87·5	84·75	S. Lt	29·325	86·5	85·8	83·75	S. by W. Lt.		Clouds in Horizon. Clear. Clear corona

No Rain this month.

W. E. BAKER, *Captain.*

METEOROLOGICAL OBSERVATIONS at KURRACHEE during the month of July, 1844.

Date.	Observations at Daybreak.					Observations at Noon.					Observations at 9 P. M.					Rain, Inches.	Remarks.
	Barometer.	Thermometer. Attached.	Detached.	Wet Bulb.	Winds.	Barometer.	Thermometer. Attached.	Detached	Wet Bulb.	Winds.	Barometer.	Thermometer. Attached.	Detached.	Wet Bulb	Winds.		
1	29·326	84°	84·5	2°	S. W. Lt.	29 336	86.	6·8	81 75	W. by S. str Gs.	29·315	84·3	84 8	81·75	W. Lt		A few lt. clds. Clear A few clds.
2	29 344	83°	83·5	81·5	W. S. W. Lt.	29 348	85·2	86°	82·75	W. S. W. Mod.	29·358	83 8	84·2	81°	W. S. W. Lt.		Clear. Cloudy. Cloudy.
3	29·343	82·5	84°	80°	W. by N. Mod.	29·310	85·2	86°	82°	W. Str	29 324	83 8	84·3	80·75	W. by S. Lt.		Light clouds. Light clouds Do.
4	29 300	82·2	83°	79 75	W. Mod	29 305	84·75	85 5	81·75	W. Str.	29·266	83·3	84°	80·75	W. Lt.		A few clds Cloudy Partial clds.
5	29·228	82·2	82 8	80.	W. by S. Lt. Gts	29·26	85°	86°	82·75	W. by S. Str.	29·266	83 8	84·5	81·5	W. by S. Lt.		Clouds. Clear. Cloudy, a few drops of rain.
6	29·268	82·5	83·2	80°	W. by N. Lt.	29·3·7	85·3	86 5	82°	W. Str.	29 326	84 3	85°	82·	W. by S. Lt.		Do. Do. Cloudy.
7	29·327	82·6	83·5	80·25	W. by N. Lt.	29 347	85°	85 75	82·25	W. Str.	29·315	84·5	84 2	80·5	W. Lt.		Partial clouds. Cloudy. Clouds in the Horizon.
8	29·305	82·5	83.	80	W. by N. Lt.	29·306	84·9	86°	82°	W. Str.	29·289	83 9	84·6	81·5	W. Lt		Cloudy A few clds. Clear zenith.
9	29·285	82 6	83°	9·7	W. by N. Lt.	29 309	84·5	85 5	81·75	W. Str.	29·310	83·6	84 3	81°	W. by S. Lt		Do. Light clds. clouds in Hor.
10	29·302	81·9	82·7	79	N. N. W Lt.	29 33	84·2	85·2	81·25	W. by N. Str.	29·334	84·2	84·8	81·	W. Lt.		Clds, thin stratus in z. Do. Cloudy
11	29·328	82 6	83°	80 25	W. Lt.	29·33	84°	84·8	81·25	W. Mod.	29·307	83 9	84·6	81·75	W by S. Lt.		Cloudy, Do. Hazy.
12	29 282	82°	82·8	80°	W. Lt	29·287	85°	85 8	82°	W. by S. Mod.	29·27·	84 8	85·5	82·	S. W. Lt.		Do. Partial clds. Partial clouds a few drops of rain.
13	29·262	83·8	84·5	81·5	W. Lt.	29·27·	85·8	86·8	83·75	S. W. Mod.	29·301	84·8	85·6	82·25	W. by S. Lt		Do. Clear. A few clouds.
14	29·313	84°	84·6	81·75	W. by N. Lt.	29·32·	86·3	87·2	83°	W. by S. Mod.	29·375	83·8	84·6	81·75	W. Lt.	1·542	Do. a few drops of rain. Cloudy, a lit shr. Overclouded, rain.
15	29·341	81·9	82·8	80°	N. W. Lt.	29·372	84·3	85°	82°	N. W. Lt	29·394	83°	83·9	81·25	N. W. Lt	·040	Cldy. Lt. clds 2 P M. overclouded, light rain, lightning N. W.
16	29·374	81°	81 6	79·25	N. W. Mod	29 389	82·6	83·5	80·75	W. Lt.	29·381	81°	81·8	79·75	W. by N. Lt.	·716	Do. a little rain, heavy rain 9 A.M. noon fair, cloudy, Clouds.
17	29·379	80·2	80 8	79°	W. by S. Lt.	29·375	83 6	84 5	81·5	W. by S. Mod	29·340	81·25	82°	79·5	W. by S. Lt.		Lt. clds. A few lt clds. Partial clds.
18	29 330	79·8	80·5	78 5	W. by S. Lt	29·33·	83°	83·8	80°	W. Mod.	29 329	81 75	82·6	79·5	W. by N. Lt		Cloudy. Lt. clds. Cloudy.
19	29 329	80°	80·7	79°	W. by N. Lt.	29·306	84 3	85 2	80 75	W. Mod.	29·387	82·5	83·2	80°	W. by N. Lt.		A few lt. clds. Clear. Light clds.
20	29·400	80 75	81·5	78·75	W. by N. Lt	29 42	85 2	87·2	81·75	W. Mod.	29 457	82·75	83·5	80°	W. Lt.		Lt. clds. Do. Cloudy Horizon.
21	9 44·	81°	81·5	78·75	W. by N. Lt	29 44	85°	85·75	81	W. by S. Mod.	29·416	82 5	83·2	79·75	W. N. W. Lt.		Do. A few lt. clouds. Cloudy.
22	29·391	80·8	81·6	78 5	W by N. Lt.	29·386	84 7	85 75	80°	W. Mod	29·360	82·3	83	79·25	W. Lt		Cloudy. Clear. A few clouds.
23	29 348	80·5	81·25	78·25	W. N. W. Lt.	29 344	85·6	86·5	80 75	W. Str	29·404	82·6	83·2	80°	N. W. Lt.		Do. Do. Cloudy, a shower 11 P.M.
24	29 353	81 8	82·6	79 5	N. W. Lt.	29 347	84·6	85 5	80 75	W. by S. Mod	29·336	82 2	82 8	79·5	W. by N. Lt	·020	Do, rain. Lt. clds. Cloudy.
25	29·347	81.2	82°	79 25	W. by N. Lt.	29 357	85·2	86·2	81·8	W. S. W. Mod.	29·400	83·2	84°	81°	W. by N. Lt.		Cloudy, A few ld. clds. Clear.
26	29·389	81 2	81·8	80°	W. Lt.	29 386	85 6	86 5	83·75	W. Str.	29 347	81 8	82·5	81·5	W. by S. Mod.		Clear. Do. do. Cloudy Horizon.
27	29·302	80·25	80·8	77·5	W. S. W. Mod.	29·30·	81·8	82·6	79·5	W. Mod.	29 254	81·8	82 6	80	W. by S. Lt.		Cloudy. Cloudy Cloudy.
28	29 205	81°	81·75	79·5	W. by S. Lt.	29·214	84 38	85·3	81·5	W. S. W. Mod	29·197	82·3	83·2	80·75	W. by S. Lt		Partial clds. Lt. clds. Passing heavy clouds.
29	29 188	81·6	83·5	80°	W. by S. Lt.	29·224	84·2	85·2	81·	W. S. W. Lt	29·261	82 6	83·5	80·75	W. S. W. Lt		Cloudy. Do. do. Clear.
30	29·276	81·8	82 8	79 75	W. by S. Lt.	29 358	84·75	85·75	80·75	W. Mod	29·3·9	83 2	84°	80·5	W. by N. Lt.		Do. Clear. Do.
31	29·3·6	81·2	82°	79°	N. W. Lt	29·402	85°	85·2	81°	W. Mod.	29·425	83·	83 8	80·	W by N. Lt.		Clear. Do. D.

W. E. Baker, *Captain.*

METEOROLOGICAL OBSERVATIONS AT KURRACHEE DURING THE MONTH OF AUGUST, 1844.

Days.	Observations at Daybreak.					Observations at Noon.					Observations at 9 P. M.					Rain, Inches.	Remarks.
	Barometer.	Thermometer. Attached.	Detached.	Wet Bulb.	Winds.	Barometer.	Thermometer. Attached.	Detached.	Wet Bulb.	Winds.	Barometer.	Thermometer. Attached.	Detached.	Wet Bulb.	Winds.		
1	29·418	80·75	81·3	78·	W. N. W. Lt.	29·41x	85·3	86·3	81·75	W. by N. Mod	29·40[illegible]	82·5	83·5	79 95	W. Lt.		Clear Clear Clear.
2	29·368	80·6	81·3	78·5	W. Lt.	29·36[illegible]	82·6	83·5	80 7··	W. Mod.	29·32·	81·5	82·3	79·95	W. Mod.		A few Lt. clds. Lt. clouds. clouds.
3	29·313	80·3	81·	77·5	W. Lt.	29·325	82 5	83·5	79·5	W. S. W. Lt.	29·310	82	83·5	79·5	S. W. Lt		Cloudy do. do. Clear.
4	29·314	80 8	81·6	79·	W. Lt.	29·31[illegible]	83·2	84·	81·	W. S. W. Mod.	29·300	82·75	83·75	80·	W. by N. Lt.		Do. corona (do. do. Cloudy.
5	29·280	81·2	81·8	78·75	W. Lt.	29·289	83·8	84·8	79 75	W. Mod.	29·281	82 8	83·8	80·	W. by S. Lt.		Do. do. do. Overclouded.
6	29·260	81·5	82·3	79·	W. Lt.	29·262	84·3	85·2	81·5	W. Mod.	29·267	82·6	83 3	79·8	W. Lt.		Partial clouds do. do. Cloudy.
7	29·259	81·2	82·2	78·75	W. by N. Lt.	29·303	84·8	85·6	81·	W. by S. Mod.	29.344	82·8	83·6	79 5	W. Lt.		Cloudy do. do. Cloudy Horizon.
8	29·344	81·5	82·3	78·25	W. by S. Lt.	29·383	84 3	85 3	80·5	W. by S. Mod	29·401	82·6	83·5	79 25	W. Lt.		Partial clds. clear A few heavy clds.
9	29·372	80·6	81·6	78·	W. by N. Lt.	29·377	84·	85·	80·75	W. Strong.	29·373	81·5	82·3	78·	W. by N. Lt.		A few heavy clds do. Partial heavy clouds.
10	29·357	80·	80·8	77·	W. by N. Lt.	29·36[illegible]	83·2	84·2	80·	W. Strong	29·336	81·2	82·	78·25	W. by S. Lt.		Cloudy Light clouds Partial clouds.
11	29·355	79·8	80·6	77·5	W. by N. Lt	29·357	82·2	83·	78·25	W. Strong	29·33[illegible]	80 6	81·5	78·	W. Lt.		Do. do. overclouded.
12	29·316	79·75	80·5	77·	W. by S. Mod.	29 314	81·2	82	79·	W. by S. Mod.	29·322	80·3	81·	78·3	W. by S. Lt		Do. A few drops of rain.
13	29·306	79·5	80·3	77·5	W. by S. Lt.	29·313	82·5	83·5	79·5	W. Mod.	29·320	81·	81·8	78·75	W. by S. Lt.		Cloudy Clear Cloudy.
14	29·331	79·6	80·5	78·	W. by S. Lt.	29·376	83·5	84·3	79·75	W. by S. Mod	29·362	81·5	82·3	78·75	W. Lt.		Do. A few light clouds. clear.
15	29·357	80·	81·	78·	W. Lt.	29·362	83·	84·	80·	W. Mod.	29 360	81·2	82·	79·	W. by N. Lt.	0·65[illegible]	Clear do. do rain 7 P. M.
16	29·309	79·2	80·2	78·	W. by N. Lt.	29·372	78·8	79·5	77·5	W. Lt	29·356	79·2	80·	78·25	W. by N. Lt	3·395	Cloudy. overclouded. heavy rain.
17	29·362	78·6	79·5	77·5	W. N. W. Lt.	29 413	82·2	83·2	80·75	W. by S. Lt.	29·424	80·1	80·8	79·	W. by S. Lt.		Do. Light clouds. clear.
18	29·436	78·75	79·5	77·5	W. Lt.	29 476	82·	83·	79·5	W. by S. Mod.	29 452	80	80 75	78·25	W. by S. Lt.		Cloudy. Horizon clear. A fewclouds.
19	29·420	79·	80·	77·5	W. Lt.	29·420	81·8	82·75	78·3	W. by S. Strong.	29·384	80·2	81·	78·	W. by Lt.		Partial clouds. Light clouds. cloudy.
20	29·376	78·75	79·5	76·5	W. Lt.	29·387	82 8	83·75	79·5	W. by S. Str	29·408	80·6	81·3	78·	W. by S. Lt		Cloudy. clear. A few heavy clouds.
21	29·400	78·75	79·75	76·5	W. Lt.	29·405	82·	83·	78·	W. by S. Str	29·406	81·	81·8	78·5	W. by S. Lt.		Cloudy Horizon clear. cloudy.
22	29·383	79·	79·8	76.5	W. Lt.	29·387	81·8	82·8	79·	W. Mod	29·417	80·3	81·2	78·	W. Lt.		Partial clouds. do cloudy.
23	29·412	79·	79·7	77.	W. by S. Lt.	29·460	82·	83	77·	W. Mod	29 497	81·	81·8	79·	W. Lt.		Clds. in Horizon. A few Lt. clds. do.
24	29·488	79·6	80·5	77,5	W. Lt.	29 521	81·8	82·8	78·5	W. by S. Str	29·500	80·	80·8	77·75	W. by S. Lt.		A few do. do. Light clouds. clear.
25	29·453	78·8	79·8	77.	W. Lt.	29 457	79·3	80·3	78·	W. by S. Mod.	29·420	79·	79·8	77·	W. by S. Lt.	0·040	Cloudy a little rain. do. cloudy.
26	29·414	78·	78·8	76·25	W. Lt.	29·422	80 3	81·3	78·25	W. Str.	29·428	79·5	80·3	78·	W. by S. Lt.		Cloudy. Horizon do. A few lt. clds. in Horizon.
27	29·427	78·8	79·8	77.	W. Lt	29·473	81·2	82·2	77·75	W. by S. Mod.	29 500	79·9	80 6	77·75	W. by N. Lt.		Cloudy do. Light clouds.
28	29·494	77·9	78·6	75·75	W. Lt.	39·513	82·	82 9	78·	W. Mod	29·52[illegible]	79·5	80·3	77·	W. by N. Lt.		A few light clds clear. A few lt. clds.
29	29·515	77·6	78·5	76·	W. by N. Lt.	29·516	80·5	81·5	77·75	W. by S. Mod	29·505	79·3	80·2	77·	W. by N. Lt.		Cloudy. Lt. drizzling rain. Lt clds. clear.
30	29·493	78·5	79·3	77·	W. by N. Mod.	29·497	80·	80·9	77·5	W. by S. Mod	29 502	79·5	80·3	78·	W. Lt.	0·065	Cloudy Rain do. cloudy.
31	29·492	77·6	78·5	76·	W. by N. Lt.	29·495	80·3	81·3	78·5	W. Mod	29·476	79·75	80·6	77 5	W. Lt.	——	Clear do. do.
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W. E. Baker, *Captain.*

METEOROLOGICAL OBSERVATIONS AT KURRACHEE DURING THE MONTH OF SEPTEMBER, 1844.

Days.	Observations at Daybreak.					Observations at Noon.					Observations at 9 P. M.					Rain. Inches.	Remarks.
	Barometer.	Thermometer. Attached.	Thermometer. Detached.	Thermometer. Wet bulb	Winds.	Barometer.	Thermometer. Attached.	Thermometer. Detached.	Thermometer. Wet bulb.	Winds.	Barometer.	Thermometer. Attached.	Thermometer. Detached.	Thermometer. Wet bulb.	Winds.		
1	29·456	77·5	78·3	76·	W. by S. Lt	29·469	79·3	80·2	77	W. by S. Lt.	29·472	78·9	80·	77·	W. by N. Lt.	0·140	Overclouded, Lt. Rain, Lt, clds.clear.
2	29·468	77·5	78·3	75·75	W. Lt.	29·497	81·75	82·6	78·75	W. S. W. Lt.	29·488	79·9	80·75	77·25	W. Lt.		{ Clear do. Cloudy. Horizon.
3	29·488	78·9	79·75	76·75	W. Lt	29·510	82·	83·	79·5	W. by S. Lt.	29·504	80·6	81·3	78·25	W. by N. Lt.		Cloudy. A few Lt. clds. cloudy.
4	29·493	79·5	80·2	77·75	W. Lt.	29·450	82·2	83·7	79·75	S. W. Lt	29·492	82·	82·75	80·	W. Lt.		Clear Clear A few clouds
5	9·445	80·5	81·5	79·2	W. Lt.	29·440	82·4	83·6	80·	S. W. by W. Lt.	29·440	83·4	84·5	81·8	W. S. W. Mod.		Do. do. do.
6	29·470	82·	83·	80·	W. by N. Lt	29·501	83·8	84·5	80·75	S. W. Mod	29·466	82·3	83·2	80·	W. Lt		Clouds in Horizon. do. do.
7	29·480	80·75	81·8	79·5	W. by N. Lt.	29·457	83·2	84·	81·25	W. by S. Mod	29·417	81·2	82·5	79·75	W. by S. Lt.		Clear. do. do.
8	29·400	79·5	80·3	78·25	W. by S. Lt.	29·404	83	84·5	80·5	S. W. Str	29·404	83·1	80·9	77·8	W. by S. Mod.		A few clds. do. Partial heavy clds.
9	29·404	78·8	79 6	76 5	W. by N. Lt.	29 453	81·75	82·75	79·	W. by S. Mod	29 485	80·6	81 3	78·25	W. Lt.		cloudy. Do. Cloudy.
10	29·402	79 3	80·3	77·5	W. by N. Lt	29·515	81·4	82·1	78 75	S. W. Mod	9·50	80·5	81·5	77·5	W. by N. Lt.		Do. Do. Do.
11	29·509	79·4	80·5	77·	W. by S. Lt.	29·547	82·6	83·2	78·	S. W. Mod	9 ·39	80·2	81·3	76·75	W. Lt.		Do. Light clds. Cldy. Horizon.
12	29 537	79·	80·	75 8	W. by S. Lt.	29 556	81 75	82·4	8·5	W. Mod	29·557	80·3	81·5	77 5	W by S. Lt		Do. Do. Cloudy.
13	29 556	79·	80·2	77·	W. Lt	29 607	81 2	82·	78·	W. by S. Mod.	29·61	81·1	81·3	77·	W. by S. Lt		Cldy. Horizon. do. Partial clds.
14	29·605	78 75	79·75	75·75	W. Lt.	29 622	80·8	81·6	77·8	W. by S. Mod	29 699	79·6	80·7	76·75	W. by N. Lt.		Partial clds. do. do. Cldy Horizon.
15	29 568	79·	80 1	76 5	W. by N. Mod.	29 586	80·9	81·6	77·8	W. by S. Str.	29·55	80·	81·1	77·5	W. by S. Lt.		Cloudy. Clear. Clear Zenith.
16	29 508	78·6	79 75	76·	W. S. W. Lt.	29·517	81·75	82·3	79	W. by S. Mod.	29·509	81·	81·	77·5	W. Lt.		Partial clouds. do. Cloudy.
17	29·500	79·	80·	76·75	W. by S. Lt	29 511	81·4	82·2	79·	W. Mod	29·56	80·6	81·6	78·	W. Lt.		Cloudy. do. do.
18	29·555	79 75	80·75	78·	W. Lt.	29·568	82·	82·6	79·	W. by S. Mod	29·569	81·3	82·5	79·	W. Lt.		Do. A few lt. clds. Clds. in Horizon.
19	29 570	79 75	81 6	76 75	W. Mod.	29·565	82·2	83·4	79 3	W. by S. Mod	29·53	81·5	82 4	79 5	W. Mod.		Light clouds. Clear. Do. do.
20	29·578	80 3	81·5	78·	W. by S. Lt.	29·605	83·1	84 1	78 75	W. by S. Mod.	29·596	80·2	81·2	77·5	W. by S. Lt.		Cldy. Clear Zenith. do. A few clds.
21	29·596	78·9	79 6	75 75	W. Lt	29·669	82·4	83·5	78·	W. by S. Mod.	29·661	80·75	81·25	76.5	W. by S. Lt.		{ Partial Clouds. do. A few white clouds. Clear Zenith.
22	29·659	78 3	79 2	74·75	W. Lt	29 669	82·1	83·4	77·	W. Mod.	29·642	79·2	80·	76·25	W. by S. Lt.		A few clouds. Do. Clear.
23	29·644	78·3	79·2	75 5	W. Lt.	29·656	81·75	82·75	77·5	W. by S. Mod.	29·654	79·	79·7	76 3	W. by S. Lt.		A few lt. clds. A few lt. clds. Lt. clds.
24	29·645	77·8	78.75	75 25	W.by N. Lt	29·661	80·8	81·8	77·75	W. Mod.	29·662	79·	79 8	76·5	W. by S. Lt		Cloudy. Do. do. Do. do.
25	29·622	77·2	78.	74 75	W. by N. Lt	29·631	80·3	81·	78·	W. Str.	29 674	79 2	80·3	77·25	W. by N. Lt		A few clouds. Light Clds. Clear.
26	29·582	77 8	78.5	76·	W. by N. Lt	29·586	83 3	84·	77·5	W. Mod	29·582	78·8	79 8	75 75	W. N. W. Lt.		Cloudy Clear. do.
27	29·572	74·8	75.6	72·75	W. by N. Lt.	29 639	78·8	79·4	73·	W. S. W. Lt	29·65	78·2	79·8	72·	N. N. W. Lt.		Clear, copious dew. do. do.
28	29·665	72·3	73 6	66·75	W. N. W. Lt.	29·717	80 4	81·	75·5	S. Lt.	29 766	81·2	82·4	74·5	W. N. W. Lt.		Clear. do. do.
29	29·694	75.75	77.	73·	S. by E. Lt.	29·707	83·6	84·5	79 5	W. by S. Lt.	29 701	81·2	82 5	79·	W. N. W. Lt.		Do. do. do.
30	29·691	76·5	77.4	74·25	W. N. W. Lt.	29·705	85·	85·6	79 75	W. Mod	29·637	81·	81·6	77·7	N. W. Lt		Do. do. do.

W. E. BAKER, *Captain*

METEOROLOGICAL OBSERVATIONS AT KURRACHEE DURING THE MONTH OF OCTOBER, 1844.

Days.	Observations at Daybreak.					Observations at Noon.					Observations at 9 P. M.					Rain, Inches.	Remarks.
	Barometer.	Thermometer. Attached.	Detached.	Wet Bulb.	Winds.	Barometer.	Thermometer. Attached.	Detached	Wet Bulb.	Winds.	Barometer.	Thermometer. Attached.	Detached.	Wet Bulb.	Winds.		
1	29·675	76·2	77·	74·75	W. N. W Lt.	29·679	86·8	88·2	76·5	W. Mod.	29·678	82·	82·6	79·75	N. W. Lt.		Clear. Clear. Clear.
2	29·673	75·	75·8	73·	Calm.	29·716	84·75	86·6	78·	N. W. Mod.	29·716	83·2	84·75	78·5	W. by S. Lt.		Do. Do. Do.
3	29·707	78·2	78·9	74·5	N. W. Lt.	29 731	86·2	88·8	78·5	W. Mod.	29·764	82·5	84·	78·	N. N. W. Lt.		Do. Do. Do.
4	29·733	77·5	79·	74·5	W. by N. Lt.	29·753	87·6	90·	81·	W. by N. Mod.	29 748	82·2	83·	78·5	Calm.		Do. Do. Do.
5	29·733	76·2	76·5	73·5	W. Lt.	29·737	85·2	86·8	79 5	W. Mod.	29·729	80 8	80·8	77·5	W. by N. Lt.		Do. Do. Do.
6	29·708	75·	75·6	75·	N. N. E. Lt.	29·710	83·9	85·	80·5	W. by S. Mod.	29·673	80·4	80·5	80·	W. Lt.		Do. Do. Do.
7	29·660	75·8	76·1	75·75	W. Lt.	29·660	83·	83·8	77 75	W. Mod.	29·630	79·5	79·8	77·75	W. Lt.		Do. Do. Do.
8	29·626	73·5	74·5	69·	N. N. W. Lt.	29 643	83·	85·6	74·75	N. W. Mod.	29·639	82·6	84·5	77·	W. N. W. Lt.		Do. Do. Do.
9	29·631	75·4	76·5	71·	N. N. E. Lt.	29·657	87·2	91·	77·75	W. by N. Mod.	29·644	83·6	84·4	80·	Ny. Lt.		Do. A few light clouds. Do.
10	29·634	76·5	77·4	72·25	N. N. E. Lt.	29·656	90·8	94·2	78·	W. by S. Lt.	29·655	82·	80·8	77·	N. Lt.		A few light clouds. Clear. Do.
11	29·642	72·8	72·8	71·8	N. Lt.	29·646	85·6	87·6	77·75	W. S. W. Lt.	29·627	82·4	83·	81·5	Ny. Lt.		Do. do. in Horizon lt. clds. Do.
12	29·615	76·75	77·6	76·	W. by S. Lt.	29 606	85·75	86·8	80·75	W. by S. Lt.	29·580	81·75	82·2	80·	W. Lt.		Do. do. do. A few do. do. Do.
13	29·547	79·2	79·6	78·75	W. Lt.	29·553	93·75	84·6	79·	W. by S. Lt.	29·535	81·2	81·8	80·	W. S. W. Lt.		Foggy, clear zenith. Clear. Do.

No rain this Month.

W. E. Baker, *Captain.*

METEOROLOGICAL REGISTER ON THE BANKS OF THE INDUS AT SUKKUR, FOR THE MONTH OF MAY, 1844.

Days.	Thermometer.			Wind.			Rain-fall	Storms, Direction of Wind.			Indus at Bukkur.						Earthquakes and other Phenomena, and General Remarks.
	At Sun-rise.	At Noon.	At 9 P. M.	At Sun-rise.	At Noon	At Sun-set.	Inches.	At Com-mence-ment.	At Middle.	At End.	Morning.		Evening.		Mean.		
											Feet	Inch.	Feet	Inch.	Feet	Inch.	
1	90°	92°	92°	N.	S.	S.	..	..	..	..	3	3	3	6	3	4½	A strong gust of northerly wind at sunrise.
2	88°	91°	94°	S. E.	S. E.	N.	..	..	..	..	3	9½	4	0	3	10⅝	Thunder and Lightning, with strong Northerly breeze at midnight.
3	90°	92°	94°	S. W	E.	E.	..	..	..	..	4	2	4	4	4	3	Evening clear.
4	88°	91°	92°	E.	E.	E.	..	..	..	..	4	6	4	8	4	7	Do.
5	89°	91°	91°	E.	E.	E.	..	..	..	..	4	10	5	0	4	11	Do.
6	84°	92°	90°	N.	N.	W.	..	..	..	..	5	4	5	6	5	5	Do.
7	84°	89°	89°	W.	W.	W.	.	..	..	..	5	8	6	0	5	10	Do.
8	84°	90°	90°	N.	N.	N.	..	..	..	..	6	4	6	6	6	5	Do.
9	84°	88°	89°	N.	N.	N.	..	..	..	..	7	2	6	10	7	0	Do.
10	84°	89°	91°	N.	N.	N.	..	..	..	..	6	8	6	6	6	7	Do.
11	87°	90°	92°	N. W	N. W.	N.	..	..	..	..	6	4	6	2	6	3	Do.
12	85°	89.	92°	S. W.	S. W.	S.	..	..	..	..	5	9	5	4	5	6½	Do.
13	87°	89°	94°	S.	S.	S.	..	..	..	..	4	10	4	8	4	9	Do.
14	88°	90°	92°	S.	S.	S.	..	..	..	..	4	6	4	4	4	5	Do. A fine breeze all night.
15	87°	89°	93°	S.	S.	S.	..	..	..	..	4	2	4	0	4	1	Do. do. do.
16	88°	90°	93°	S.	S.	S.	..	..	..	..	3	11	3	9½	3	10½	Do. do. do.
17	86°	88°	92°	S.	S.	S.	..	..	..	..	3	8	3	7	3	7½	Do. do. do.
18	86°	89°	90°	S.	S.	S.	..	..	..	..	3	6	3	5	3	5½	Do. do. do.
19	85°	88°	91°	S.	S.	S.	..	..	..	..	3	4	3	3	3	3½	Do. A close night.
20	87°	89°	92°	S.	S.	S.	..	.	..	.	3	2	3	4	3	3	Do. do.
21	86°	89°	90	S.	S.	N.	..	W. to E.	W. to E.	N. to S.	3	6	3	8	3	7	Do. A dust storm at 6 P.M.
22	87°	89°	92°	S.	S.	S.	..	..	..	..	3	10	3	11½	3	10⅝	Do. A close night.
23	88°	90°	92°	S.	N.	N.	..	..	..	..	4	2	4	5	4	3½	Do.
24	88°	90°	92°	S.	S.	S.	..	..	..	..	4	8	5	0	4	10	Do.
25	88°	91°	93°	W.	N. W.	N.	..	..	..	..	5	4	5	8	5	6	Do.
26	88°	91°	94°	S.	S.	S.	..	..	..	..	5	10	5	4	5	7	Do.
27	88	92°	97°	S.	S.	S.	..	..	..	....	5	9⅜	6	1	5	11½	Do. A strong breeze after midnight till morning.
28	86°	90°	95°	S.	S.	N.	..	..	..	..	6	6	7	9	7	1½	Clear.
29	89°	92°	96°	S.	S.	N.	..	..	..	..	7	7	7	5	7	6	Do.
30	90°	92°	95°	S.	S.	S.	..	..	..	..	7	2	6	11	7	½	Do.
31	88°	92°	98°	S.	S.	S.	..	..	..	.	6	9	6	7	6	8	Do. A strong breeze all night.
Mean.	86 9	90·1	92·3														

W. E. BAKER, *Captain.*

METEOROLOGICAL OBSERVATIONS AT KURRACHEE DURING THE MONTH OF OCTOBER, 1844.

Days.	Observations at Daybreak.					Observations at Noon.					Observations at 9 P. M.					Rain, Inches.	Remarks.
	Barometer.	Thermometer. Attached.	Detached.	Wet Bulb.	Winds.	Barometer.	Thermometer. Attached.	Detached	Wet Bulb.	Winds.	Barometer.	Thermometer. Attached.	Detached.	Wet Bulb.	Winds.		
1	29·675	76·2	77·	74·75	W. N. W Lt.	29·679	86·8	88·2	76·5	W. Mod.	29·678	82·	82·6	79·75	N. W. Lt.		Clear. Clear. Clear.
2	29·673	75·	75·8	73·	Calm.	29·716	84·75	86·6	78·	N. W. Mod.	29·716	83·2	84·75	78·5	W. by S. Lt.		Do. Do. Do.
3	29·767	78·2	78·9	74·5	N. W. Lt.	29·731	86·2	88·8	78·5	W. Mod.	29·764	82·5	84·	78·	N. N. W. Lt.		Do. Do. Do.
4	29·733	77·5	79·	74·5	W. by N. Lt.	29·753	87·6	90·	81·	W. by N. Mod.	29 748	82·2	83·	78·5	Calm.		Do. Do. Do.
5	29·733	76·2	76·5	73·5	W. Lt.	29·737	85·2	86·8	79 5	W. Mod.	29·729	80 8	80·8	77·5	W. by N. Lt.		Do. Do. Do.
6	29·708	75·	75·6	75·	N. N. E. Lt.	29·710	83·9	85·	80·5	W. by S. Mod.	29·673	80·4	80·5	80·	W. Lt.		Do. Do. Do.
7	29·660	75·8	76·1	75·75	W. Lt.	29·660	83·	83·8	77 75	W. Mod.	29·630	79·5	79·8	77·75	W. Lt.		Do. Do. Do.
8	29·626	73·5	74·5	69·	N. N. W. Lt.	29 643	83·	85·6	74·75	N. W. Mod.	29·639	82·6	84·5	77·	W. N. W. Lt.		Do. Do. Do.
9	29·631	75·4	76·5	71·	N. N. E. Lt.	29·657	87·2	91·	77·75	W. by N. Mod.	29·644	83·6	84·4	80·	Ny. Lt.		Do. A few light clouds. Do.
10	29·634	76·5	77·4	72·25	N. N. E. Lt.	29·656	90·8	94·2	78·	W. by S. Lt.	29·655	82·	80·8	77·	N. Lt.		A few light clouds. Clear. Do.
11	29·642	72·8	72·8	71·8	N. Lt.	29·646	85·6	87·6	77·75	W. S. W. Lt.	29·627	82·4	83·	81·5	Ny. Lt.		Do. do. in Horizon lt. clds. Do.
12	29·615	76·75	77·6	76·	W. by S. Lt.	29 606	85·75	86·8	80·75	W. by S. Lt.	29·580	81·75	82·2	80·	W. Lt.		Do. do. do. A few do. do. Do.
13	29·547	79·2	79·6	78·75	W. Lt.	29·553	83·75	84·6	79·	W. by S. Lt.	29·535	81·2	81·8	80·	W. S. W. Lt.		Foggy, clear zenith. Clear. Do.

No rain this Month.

W. E. BAKER, *Captain.*

METEOROLOGICAL REGISTER on the Banks of the Indus at SUKKUR, for the Month of May, 1844.

Days.	Thermometer.			Wind.			Rain-fall	Storms. Direction of Wind.			Indus at Bukkur.						Earthquakes and other Phenomena, and General Remarks.
	At Sun-rise.	At Noon.	At 9 P. M.	At Sun-rise.	At Noon.	At Sun-set.	Inches.	At Commence-ment.	At Middle.	At End.	Morning.		Evening.		Mean.		
											Feet	Inch.	Feet	Inch.	Feet	Inch.	
1	90°	92°	92°	N.	S.	S.	..	..	..	..	3	3	3	6	3	4½	A strong gust of northerly wind at sunrise.
2	88°	91°	94°	S. E.	S. E.	N.	..	..	..	..	3	9½	4	0	3	10⅝	Thunder and Lightning, with strong Northerly breeze at midnight.
3	90°	92°	94°	S. W	E.	E.	..	..	..	..	4	2	4	4	4	3	Evening clear.
4	88°	91°	92°	E.	E.	E.	..	..	..	..	4	6	4	8	4	7	Do.
5	89°	91°	91°	E.	E.	E.	..	..	..	..	4	10	5	0	4	11	Do.
6	84°	92°	90°	N.	N.	W.	..	..	..	..	5	4	5	6	5	5	Do.
7	84°	89°	89°	W.	W.	W.	..	..	..	..	5	8	6	0	5	10	Do.
8	84°	90°	90°	N.	N.	N.	..	..	..	..	6	4	6	6	6	5	Do.
9	84°	88°	89°	N.	N.	N.	..	..	..	..	7	2	6	10	7	0	Do.
10	84°	89°	91°	N.	N.	N.	..	..	..	..	6	8	6	6	6	7	Do.
11	87°	90°	92°	N. W	N. W.	N.	..	..	..	..	6	4	6	2	6	3	Do.
12	85°	89.	92°	S. W.	S. W.	S.	..	..	..	..	5	9	5	4	5	6½	Do.
13	87°	89°	94°	S.	S.	S.	..	..	..	..	4	10	4	8	4	9	Do.
14	88°	90°	92°	S.	S.	S.	..	..	..	..	4	6	4	4	4	5	Do. A fine breeze all night.
15	87°	89°	93°	S.	S.	S.	..	..	..	..	4	2	4	0	4	1	Do. do. do.
16	88°	90°	93°	S.	S.	S.	..	..	..	..	3	11	3	9½	3	10½	Do. do. do.
17	86°	88°	92°	S.	S.	S.	..	..	..	..	3	8	3	7	3	7½	Do. do. do.
18	86°	88°	90°	S.	S.	S.	..	..	..	..	3	6	3	5	3	5½	Do. do. do.
19	85°	88°	91°	S.	S.	S.	..	..	..	..	3	4	3	3	3	3½	Do. A close night.
20	87°	89°	92°	S.	S.	S.	..	.	..	.	3	2	3	4	3	3	Do. do.
21	86°	89°	90	S.	S.	N.	..	W. to E.	W. to E.	N. to S.	3	6	3	8	3	7	Do. A dust storm at 6 P.M.
22	87°	89°	92°	S.	S.	S.	..	..	..	..	3	10	3	11½	3	10⅞	Do. A close night.
23	88°	90°	92°	S.	N.	N.	..	..	..	..	4	2	4	5	4	3½	Do.
24	88°	90°	92°	S.	S.	S.	..	..	..	..	4	8	5	0	4	10	Do.
25	88°	91°	93°	W.	N. W.	N.	..	..	..	..	5	4	5	8	5	6	Do.
26	88°	91°	94°	S.	S.	S.	..	..	..	..	5	10	5	4	5	7	Do.
27	98	92°	97°	S.	S.	S.	..	..	..	....	5	9½	6	1	5	11½	Do. A strong breeze after midnight till morning.
28	86°	90°	95°	S.	S.	N.	..	..	..	..	6	6	7	9	7	1½	Clear.
29	89°	92°	96°	S.	S.	N.	..	..	..	..	7	7	7	5	7	6	Do.
30	90°	92°	95°	S.	S.	S.	..	..	..	..	7	2	6	11	7	¼	Do.
31	88°	92°	98°	S.	S.	S.	..	..	..	.	6	9	6	7	6	8	Do. A strong breeze all night.
Mean.	86 9	90·1	92·3														

W. E. Baker, *Captain.*

METEOROLOGICAL REGISTER on the Banks of the Indus at SURKUR, for the month of June 1844.

Days.	Thermometer. At Sunrise.	Thermometer. At Noon.	Thermometer. At 9 P. M.	Wind. At Sunrise.	Wind. At Noon.	Wind. At Sunset.	Rain-fall Inches.	Storms. Direction of Wind. At Commencement.	Storms. Direction of Wind. At Middle.	Storms. Direction of Wind. At End.	Indus at Kukkur. Morning. Feet	Morning. Inch.	Evening. Feet	Evening. Inch.	Mean. Feet	Mean. Inch.	Earthquakes and other Phenomena, and General Remarks.
1	83·0	92·1	96·7	S.	S.	S.	..	..	..	..	6	5	6	4½	6	5	A strong breeze all night.
2	88·3	90·5	91·0	S.	S.	S.	..	..	..	..	6	3	6	5	6	4	A close sultry night.
3	88·5	89·5	92·2	S.	S.	S.	..	..	..	..	6	6½	6	7½	6	7	Clear, a fine breeze from midnight.
4	86·2	88·4	92·7	S.	S.	S.	..	..	..	..	6	8½	6	11	6	9½	Do. Do. all night.
5	86·2	88·7	9?·6	S.	S.	S.	..	..	..	..	7	9	7	2	7	5½	Do. Do. Do.
6	88·9	90·0	92·7	S.	S.	S.	..	..	..	..	7	5	7	8	7	6½	Do. Do. Do.
7	88·7	90·2	92·4	S.	S.	S.	..	..	..	..	7	6	7	5	7	5½	Cloudy at noon. Clear and close night.
8	88·9	90·4	92·5	S.	S.	S.	..	..	..	..	8	6	9	3	8	10	Clear. A fine breeze all night.
9	86·7	90·3	94·0	S.	S.	S.	..	..	..	..	8	11	8	9	8	10	Do. A strong breeze at 10 P. M.
10	86·5	90·8	96·4	S.	N. W.	S.	..	..	..	..	8	9½	8	7½	8	8½	Do. Do. from 9 P. M.
11	86·4	88·4	94·0	S.	S.	S.	..	..	..	..	8	6	8	4½	8	5½	Do. Do. all night.
12	86·1	88·4	92·0	S.	S.	S.	..	..	..	..	8	5	8	4	8	4½	Do. Do. Do.
13	86·0	90·0	92·0	S.	S.	S.	..	..	..	..	8	3	8	4	8	3½	Do. Do. Do.
14	86·0	86·8	92·4	S.	S.	S.	..	..	..	..	8	4	8	3	8	3½	Do. Do. Do.
15	86·2	88·7	92·2	S.	S.	S. W.	..	..	..	..	8	1	8	..	8	¼	Do. Do. from 10 P. M.
16	86·6	88·5	92·0	S.	S.	S.	..	..	..	..	7	10	7	8	7	9	Do. Do. all night.
17	88·2	88·5	88·8	S.	S.	S.	..	..	..	..	7	6	7	2	7	4	Clear day. Cloudy evening. Clear night.
18	86·9	90·2	92·5	S.	S.	S.	..	..	..	..	7	..	7	..	7	..	Do. very close at night.
19	88·8	90·7	92·4	S.	S.	S. E.	..	..	..	..	6	10	6	8	6	9	Do. Do.
20	88·9	9?·0	94·2	S. E.	S.	S. E.	..	..	..	..	6	6	6	4	6	5	Do. A fine breeze from 10 P. M.
21	88·1	90·5	94·2	S.	S.	S.	..	..	..	..	6	2	6	..	6	1	Do. Do. Do.
22	88·6	90·5	96·3	S.	S.	S. W.	..	..	..	..	5	10	5	8	5	9	Do. Do. Do.
23	88·2	90·6	94·5	S.	S.	S. W.	..	..	..	..	5	6	5	4	5	5	Cloudy at noon. Clear night and fine breeze.
24	90·0	90·5	96·2	S.	S.	S.	..	..	..	..	5	4	5	3	5	3½	Clear day and night, fine breeze all night.
25	90·0	9?·0	93·2	S.	S.	S.	..	..	..	..	5	2	5	1	5	1½	Do. Do. Do.
26	88·0	90·5	96·3	S. E.	S.	S. W	..	..	..	..	5	..	4	11	4	11½	Do. Do. Do.
27	86·0	90·6	94·6	S.	S.	S.	..	..	..	..	4	10	4	9	4	9½	Do. A strong breeze all night from 5 P. M.
28	86·7	88·7	94·5	S.	S. W.	S.	..	..	..	..	4	8	4	7	4	7½	Clear day and night. A fine breeze all night.
29	88·2	88·4	92·0	S.	S.	S.	...	..	..	..							Do. Do. very sultry throughout.
30	90·0	90·4	96·0	S.	S.	S.	..	..	..	..							Do. Do. Do.
Mean.	87·7	89·8	93·3														

W. E. Baker, *Captain*

METEOROLOGICAL REGISTER ON THE BANKS OF THE INDUS AT SUKKUR, FOR THE MONTH OF JULY, 1844.

Days.	Thermometer. At Sunrise.	Thermometer. At Noon.	Thermometer. At 9 P. M.	Wind. At Sunrise.	Wind. At Noon	Wind. At Sunset.	Rain fall. Inches.	Storms. Direction of Wind. At Commencement.	Storms. Direction of Wind. At Middle.	Storms. Direction of Wind. At End.	Indus at Bukkur. Morning.		Evening.		Mean.		Earthquakes and other Phenomena, and General Remarks.	Rain-fall at Hydrabad. Inches.
											Feet.	Inch.	Feet.	Inch.	Feet.	Inch.		
1	90 3	92·0	94·0	W.	W.	W.	..	..	..	..	4	4	4	6	4	5	Fine breeze from 10 P. M.	..
2	88·6	90·8	96·6	S. W	S.	S.	..	..	..	..	4	8	4	10	4	9	Do. all night.	..
3	88·4	90·2	96·2	S.	S.	S.	..	..	..	..	5	..	5	2	5	1	Clear. A strong breeze all night.	..
4	88·2	90·1	96·0	S.	S.	S. W.	..	..	..	..	5	4	5	6	5	5	Do. Do. Do.	..
5	86·6	88·6	96·5	S.	S.	S.	..	..	..	..	5	10	6	4	6	1	Do. Do. Do.	..
6	86 8	88 5	92·2	S.	S.	S.	..	..	..	..	6	8	6	11	6	9½	Do. Do. from 9 P. M.	..
7	86 6	90·0	92·2	S.	S.	S.	..	..	..	..	7	2	7	6	7	4	Do fine breeze from 11½ P. M.	..
8	86·4	90 1	94 0	S.	S.	S.	..	..	..	..	8	0	8	2	8	1	Do. Do. Do. 10 P. M.	..
9	86·7	88 7	92·8	S.	S.	S. W.	..	..	..	..	8	4	8	6	8	5	Do. Do. all night.	..
10	86·8	88·6	92 6	S.	S. W.	S.	..	..	..	..	8	8	8	8	8	9	Do. Do. Do.	..
11	86 5	88·5	92·3	S.	S.	S. W.	..	..	..	..	8	11	9	..	8	11½	Do. Do. Do.	..
12	86 7	88 5	92·7	S.	S.	S.	..	..	..	..	8	10	8	8	8	9	Do. Cloudy all night with a fine breeze.	..
13	90·0	90·1	91·2	S.	S.	S. W.	..	..	..	..	8	6	8	4	8	5	Cloudy. Do. Do. Do.	..
14	90·2	90·3	92·3	E	S. E.	S.	..	..	..	..	8	2	8	..	8	1	Do. Thunder and Lightning to the S. in the evening.	..
15	86·8	92·0	90·3	S. W	N. W.	S.	...	..	..	..	8	1	8	2	8	1½	Do. in the evening, fine breeze all night	0·93
16	88 4	90·1	88 0	S.	S.	S. W.	0.02	..	..	..	8	3	8	4	8	3½	Do. Rain at 11 P. M. cool night.	2 20
17	88 0	88·6	90·5	S. W.	S.	S. E	..	..	..	..	8	5	8	6	8	5½	Clear. A close day and night.	..
18	88·2	90·0	92·2	S.	S.	S.	..	..	..	..	8	7	8	8	8	7½	Do. Do. Do.	..
19	88 6	90 5	92·0	S. E.	S.	S. E	...	..	..	..	8	9	8	10	8	9½	Do. A strong breeze all night.	..
20	88 4	88 6	92·7	S. E.	S. E.	E.	..	..	..	..	8	11	9	..	8	11½	Do. A clear day and night.	..
21	90·0	92·3	90·1	S. E	N. E.	S. E	..	..	..	..	9	...	9	..	9	..	Cloudy. A fine breeze all night.	..
22	88·0	90·0	88 0	S. W.	S. E.	S. E.	0.02	..	..	..	9	1	9	2	9	1½	Do. day and night. Rain at 1 P. M.	..
23	86 9	90 0	88 0	S. E.	N.	E.	..	..	..	..	9	3	9	4	9	3½	Do. do. close night.	0·29
24	86 0	92 0	86·8	E.	N.	N. E	0.18	..	..	..	9	5	9	6	9	5½	Do. do. Rain at 2 P. M.	0 05
25	86·5	88·0	90·4	N. E.	N.	N. E	.	..	..	..	9	8	9	10	9	9	Clear. Fine breeze all night.	...
26	88·2	88 7	92·4	S. W.	S. W.	S.	..	..	..	..	9	11	10	..	9	11½	Do. Do. Do.	..
27	86 0	86·9	90·3	S.	S.	S.	..	..	..	..	9	10	9	8	9	9	Do. Do. Do.	...
28	84·4	86·2	90·4	S.	S.	S.	..	..	..	..	9	7	9	6	9	6½	Do. Do. Do.	..
29	84.5	86·5	90·0	S.	S.	S.	..	..	..	..	9	4	9	2	9	3	Do. Do. Do.	..
30	86·2	86 5	90·0	S.	S.	S.	..	..	..	..	9	..	8	10	8	11	Do. Do. Do.	..
31	86·4	88·0	90 3	S.	S.	S.	..	..	..	..	8	8	6	8	8	7	Do A clear night.	..
Mean.	87·4	89·4	91 8															3·47

W. E. BAKER, *Captain.*

METEOROLOGICAL REGISTER on the Banks of the Indus at SUKKUR, for the Month of August, 1844.

Days.	Thermometer.			Wind.			Rain-fall	Storms. Direction of Wind.			Indus at Bukkur.						Earthquakes and other Phenomena, and General Remarks.	Rain-fall at Hydra-bad.
	At Sun-rise.	At Noon.	At 9 P. M.	At Sun-rise.	At Noon.	At Sun-set.	Inches.	At Commence-ment.	At Middle.	At End.	Morning.		Evening.		Mean.			
											Feet	Inch.	Feet	Inch	Feet	Inch		
1	86·2	88·2	90·6	S.	S. W.	S.	...	..	..	..	8	4	8	2	8	3	Very close. Fine breeze from midnight.	..
2	86·4	88·5	92.2	E.	S.	S.	..	..	..	..	8	4	8	6	8	5	Clear. do. all night.	..
3	86·0	86·6	92·2	S.	S.	S.	..	..	..	....	8	8	8	10	8	9	Do. do. do.	....
4	86·5	88·0	90·8	S. E.	S. E.	S. E.	.	..	..	..	9		9	2	9	1	Do. do. do.	..
5	86·2	86·8	90·4	S. E.	S. E.	S. E.	..	..	..	..	9	4	9	6	9	5	Do. do. do.	.
6	84·4	86·8	90·5	S.	S.	S. E.	..	..	..	..	9	4	9	2	9	3	Do. do. do.	..
7	84·5	88·0	90·5	S.	S.	S.	...	..	..	..	9		8	10	8	11	Do. A close sultry night.	..
8	88·2	88·8	90·2	S. W.	S.	S. W.	..	..	..	....	8	9	8	8	8	8½	Do. day—cloudy evening, close night.	..
9	86·6	88·8	92·4	S. E.	S.	S.	..	..	..	..	8	6	8	5	8	5½	Do. Fine breeze from 9 P. M.	..
10	86·2	88·2	92·6	S W.	S.	S.	..	..	..	..	8	4	8	3	8	3½	Do. do. all night.	..
11	84·5	88·5	92·4	S. E.	S.	S. W	..	..	..	..	8	2	8	1	8	1½	Do· do, do.	..
12	84·0	86·8	90·6	S.	S.	S. E.	..	..	.	..	8		8	2	8	1	Do. do. do.	..
13	84·0	86·0	90 2	S.	S.	S. E.	..	..	..	..	8	3	8	4	8	3½	Do. do. do.	..
14	84·4	86·2	90·0	S. E.	N. W.	S.	..	..	..	..	8	6	8	8	8	7	Do. A close sultry night.	..
15	88·0	88·8	90·5	S. E.	N. W.	N.	..	..	..	..	8	10	8	11½	8	10¾	Cloudy. do.	..
16	88·5	90·5	86·2	N.	N.	N.	..	..	..	..	9	4	9	7	9	5½	Do. Cool day and night, rain at midnight.	2·16
17	86·5	84·5	86·2	S.	N.	N.	0·45	..	..	..	9	9	9	11	9	10	Do. Day and night, cool throughout.	..
18	84·5	86·5	88·4	S.	S.	S.	..	..	..	.	10	3	10	4	10	3½	Clear, a fine breeze all night.	..
19	82·4	84·8	90·0	S.	S.	S.	..	..	..	..	10	6	10	4	10	5	Do. do. do.	..
20	82·4	84 8	86 8	S.	S.	S.	..	..	..	..	10	2	10		10	1	Do clear, night fine breeze towards morning.	..
21	82·5	84·4	88·5	S. E.	S. E.	S.	..	..	..	..	9	10	9	8	9	9	Do. Fine Breeze all night.	..
22	82·0	84·4	88·6	S. E.	S.	S.	..	..	..	..	9	7	9	6	9	6½	Do. do. do.	..
23	80·5	84·4	86·6	S. E.	S.	S.	..	..	..	..	9	5	9	4	9	4½	Do. do. from 10 P. M.	..
24	82·0	84·5	88·0	S.	S.	S. W.	..	..	..	..	9	3	9	2	9	2½	Do. do. all night.	..
25	82·0	84·6	88 0	S.	S.	S.	...	..	..	..	9		9		9		Do. do. do.	..
26	82·0	84·5	84·2	S.	S.	S.	..	..	..	..	9	1	9	2	9	1½	Do. do. do.	..
27	82·4	84·8	86·8	N.	S.	S.	..	..	.	....	9	3	9	4	9	3½	Do. do. do.	..
28	82·5	84·6	86·6	S.	S.	S.	..	..	..	..	9	5	9	6	9	5½	Do. do. do.	..
29	82 2	81·2	88·0	S.	S.	S.	..	..	..	..	9	4	9	2	9	3	Do. do. do.	..
30	82·2	84·6	88 0	S.	S	S.	..	..	..	..	9		8	10	8	11	Do. do. do.	..
31	82·0	86·5	86 9	S.	S.	S.	..	..	..	..							Do. do. do.	..
Mean.	84·3	86·3	89 3				..	..	..	..								2·16

W. E. Baker, *Captain.*

METEOROLOGICAL REGISTER ON THE BANKS OF THE INDUS AT SUKKUR, FOR THE MONTH OF SEPTEMBER, 1844.

Days.	Thermometer.			Wind.			Rain fall	Storms. Direction of Wind.			Indus at Bukkur.						Earthquakes and other phenomena, and General Remarks.
	At Sun-rise.	At Noon.	At 9 P. M.	At Sun rise.	At Noon.	At Sun-set.	Inches.	At Commence-ment.	At Middle.	At End.	Morning.		Evening.		Mean.		
											Feet.	Inch.	Feet.	Inch.	Feet.	Inch.	
1	80.8	84·2	86·6	S.	S.	S.	..	..	..	..	8	4	8	2	8	3	Clear, fine breeze all night.
2	82.0	84·5	86·8	S.	S.	S.	..	..	..	..	8	3	8	5	8	4	Do. do. do.
3	84.0	84·6	86·6	S.	S.	S.	..	..	..	..	8	6	8	7	8	6½	Do. A close night.
4	84.0	86·4	88·0	S.	S.	S.	.	..	..	..	8	8	8	9	8	8½	Do. do.
5	86.0	88·2	88·2	S.	S.	S.	..	..	..	..	8	10	8	11	8	10½	
6	86.5	..	..	S.	..	..	..	..	..	..	9	1	9	2	9	1½	
7	..	..	..	..	..	..	..	..	..	..	9	3	9	4	9	3½	
8	..	..	..	..	..	..	..	..	..	..	9	5	9	6	9	5½	
9	..	.	..	..	.	..	..	..	..	..	9	4	8	10	9	1	
10	..	..	..	..	..	..	..	..	.	..	8	5	8	1	8	3	
11	..	..	..	..	.	..	..	..	..	..	7	9	7	4	7	6½	
12	..	..	..	..	..	..	..	..	..	..	7	..	6	8	6	10	
13	..	..	..	..	..	..	..	..	..	..	6	5	5	1	5	9	
14	.	..	..	..	.	..	..	..	..	..	4	9	4	6	4	7½	
15	..	..	..	..	..	..	..	..	..	..	4	3	4	..	4	1½	
16	..	..	..	..	..	..	..	..	..	..	3	11	3	10	3	10½	
17	..	..	..	..	..	..	..	..	..	..	3	9	3	8	3	8½	
18	..	..	..	..	..	..	..	..	..	..	3	7½	3	6	3	6½	
19	..	..	..	..	..	..	..	..	..	..	3	5	3	4½	3	4½	
20	80·0	84·0	86·0	W.	W	W.	..	..	..	..	3	3½	3	3	3	3½	A fine breeze from 10½ P. M.
21	80·5	84·0	84·6	S.	S.	S.	..	..	..	..	3	2	3	1⅛	3	1¾	Clear do. do. 11 P. M.
22	80·0	84·0	84·5	S.	S.	S.	..	..	..	..	3	...	3	..	3	..	Do. do. do. 9 P. M.
23	78·8	82·6	84·4	S. E	S.	S. E.	..	..	..	..	2	11	2	10½	2	10¾	Do. A cool night.
24	78·5	84·0	84·4	S. E.	S.	S.	..	..	..	..	2	10	2	9½	2	9¾	Do. do.
25	78·4	84 0	84·4	S. E.	S. E.	S. E.	..	..	..	..	2	8½	2	8	2	8¼	Do. A close night.
26	80·0	82·4	82·0	N. W.	N.	N.	..	..	..	..	2	7	2	6	2	6½	Do. A cool night.
27	78·0	80·9	82·0	N.	N.	N.	.	..	..	..	2	5	2	3	2	4	Do. do.
28	78·0	82 0	82·2	N.	N.	N.	..	..	..	..	2	2	2	1	2	1½	Do. do.
29	78·2	82·0	84·9	N.	N.	N.	..	.	..	..	1	11	1	10	1	10½	Do. do.
30	80·2	82·5	82·6	N.	N.	N.	...	..	..	..							Do. do.
Mean.	80·9	83·8	84·9														

W. E. BAKER, *Captain.*

TRANSACTIONS

OF THE

BOMBAY GEOGRAPHICAL SOCIETY,

FROM FEBRUARY TO DECEMBER 1846.

EDITED BY THE SECRETARY.

BOMBAY:
PRINTED AT THE TIMES PRESS,
BY JAMES CHESSON.

MDCCCXLVI.

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MEETINGS

OF THE

BOMBAY GEOGRAPHICAL SOCIETY.

THE Aniversary Meeting of this Society took place in their Rooms, Town Hall, on Thursday the 7th May 1846, at 3 o'clock P. M.

Present.—Capt. D. Ross, I. N., F. R. S., President in the chair. The Hon'ble J. P. Willoughby, Esq., Vice-President; Dr. J. Bird; Dr. J. Glen; Major J. Holland; Lieut. G. Jenkins, I. N.; Capt. H. J. Barr; and Dr. G. Buist, Secretary.

The minutes of the last meetings, held on the 5th February, and 9th April, 1846, were read and approved.

The Secretary stated, that in consequence of his long-protracted absence from the presidency, he had been unable to draw up or lay before the Society the report on the progress of Geographical research within the past year. The chief share taken in it by the Society were the investigations in Physical Geography, the greater part of the correspondence relating to which had been so recently before them, that it was needless to revert to it: the concluding part of it would now be placed in their hands. The Secretary stated, that on his arrival in Bombay on the 9th of January he found that Government had taken up the limited scheme formerly laid before them; that enquiries had been made by Captain Lynch, Acting Secretary, as to where instruments could be procured, and as satisfactory an answer as the circumstances permitted returned to the Military Board. The Secretary having brought with him overland a considerable collection of very fine instruments, consulted with various members of Committee, when it was agreed that the Military Board should be written to, and the following letter was accordingly addressed to them :—

"To Captain A. McD. ELDER, Acting Secretary to the Military Board.

"SIR,—In continuation of Acting Secretary Capt. Lynch's letter, dated 10th November, No. 38 of 1845, in reply to yours of the 4th November, No. 4436 of 1845, in reference to the supply of Tidal and Meteorological instruments for employment at Aden,—I have the honor to inform you that the Lords of Her Majesty's Admiralty having resolved to supply the Geographical Society with instruments for observation at certain points on the Malabar Coast, it is considered of importance that the instruments employed at Aden should be, for the sake of comparison, as like these as possible—those already in the Government stores being on this ground ineligible. A fine barometer and pair of thermometers by Mr. Adie of

Edinburgh—the maker proposed to be employed by their Lordships—were brought out by me overland: they have not been compared, as the others are proposed to be, with the standards of the Royal Society of London, but may be tried with these latter afterwards, and are now being rated at the Observatory, with the view of meeting your wishes.

"Captain Haines fortunately is in possession of a barometer of similar form, and by the same maker: this will serve perfectly till other instruments arrive.

"Two tide-gauges by the same maker, and nearly of the same form as those expected, have been provided for Aden; but Captain Haines, in conversing on this subject with myself some ten weeks since, having urged the importance of having all the instruments as complete and serviceable as possible before being sent to him, I would respectfully recommend that both gauges be furnished with boxes to cover them from the weather, as it is not intended to place them under other cover, and pipes to supply the place of wells. These require to be made of wood and partly lined with copper. I have forwarded drawings of them on a separate sheet, and shall be happy to superintend their construction, should the Military Board desire it. Accompanying is a woodcut engraving of the gauge.

"In addition to the instruments, the observers require to be furnished with forms, ruled schedules, and minute and definite instructions for the transmission of returns; all of which, if desired, will be provided by the Society— Government defraying the expence.

"I may, perhaps, be permitted to add, that the scheme which has thus been commenced is looked on with much interest by men of science at home; and H. M.'s Admiralty, with whom I was in very close intercourse before leaving home, as well as the leading members of the Royal Society, look with high satisfaction on the promptitude and alacrity with which all scientific investigations are taken up in India.

"I have the honor to be, Sir, your most obedient servant,

"GEO. BUIST, Secy. Geographical Society."

"Geographical Society's Rooms, Town Hall, Bombay, 22nd Jan., 1846."

To this the Board replied as follows:—

"No. 636 of 1846.—*Pubic Works.—Marine Department.*

"To Dr. G. BUIST, Secretary to the Geographical Society.

"SIR,—With reference to your letter No. 1, dated 22d ultimo, regarding Tidal and Meteorological instruments for employment at Aden, I have the honor to inform you, by direction of the Military Board, that Professor Orlebar has already undertaken, and the Board have committed to him, the superintendence, under their control, of the measures now being adopted for prosecuting Tidal and Meteorological Observations; and that Professor Orlebar has already procured the Tide-gauges and Barometers* requisite, and has ordered Thermometers and some other instruments from England.

* The tide-gauges and barometers here referred to were those recommended in the preceding letter, and which had been purchased subsequent to the 22nd January and anteriorly to the 12th February! They were forwarded to Aden without having been fitted up as recommended!—*Secy. B.G.S.*

"2. I am also directed to inform you, that the necessary forms in which to register Observations are now being Lithographed.

"I have the honor to be, Sir, your most obedient servant,

"(Sigd.) A. McD. ELDER, Capt., Actg. Secy. Military Board."

"Bombay, Military Board Office, 12th February, 1846."

It was not till then surmised that the earlier portion of the scheme—planned and suggested by the Society,—and which they had prepared themselves to work out, had been transferred to other hands: and would probably be carried into effect without the names of its authors being so much as associated with it. The barometer referred to by the Board was that which Dr. Buist had brought out overland: the tide-gauges had been provided by the same party, and brought to Bombay at his own charge, before the scheme was proposed to Government. There was so much delay occasioned by the usual mode of correspondence, reports, and estimates—so much risk of the scheme breaking down through sheer waste of time betwixt planning and execution, when Government,—which had only acted on suggestion in promoting objects in which they might feel but little interest, and were unlikely to do anything except in the usual form and on specific application being made to them, that the plan pursued had been adopted to enable the projector to take the risk on his own shoulders: a year or two in point of time had, besides, thus been probably saved. The political agent had so strongly represented the necessity of having everything fitted up as completely as possible at Bombay, as enormous expense and delay were sure to occur when work of this sort, especially when altogether new to them, was performed at Aden, that he had taken the liberty of addressing the Military Board as above. The tide-gauges had ultimately been forwarded just as they arrived from England, excepting that the clocks had been cleaned, but without any fitting-up whatever. This portion of the scheme, however, had, as would be seen from the first, passed from their hands. In conformity with the resolutions passed at last meeting, the following letter, after having been submitted to the Committee, was forwarded to Government:—

"To Lieut.-Colonel MELVILL, Secretary to Government.

"SIR,—I am directed by the Geographical Society to forward, for submission to the Honorable the Governor in Council, a correspondence and series of papers * relating to a scheme of Tidal and Meteorological observations, desired to be carried out by the Lords of Her Majesty's Admiralty, in conjunction with the Bombay Government and Geographical Society of this Presidency, part of which has already experienced the favourable consideration of the Government.

* 1. Memorial of Dr. Buist to the Lords of the Admiralty.
2. Their Lordships' reply.
3. Memorandum to the Bombay Geographical Society, including—
a. Letter to Colonel Sabine, dated off Malta, 18th December.
b. Letter to Colonel Sabine from Bombay, February 1st.
c. Letter to Mr G. Dalrymple, Gibraltar
d. Letter to Mr. J. Sterling, Civil Engineer.
e. Letter to Mr. Adie, Optician, Edinburgh.—Memorandum of the work to be executed at Malta, Alexandria, Cairo, Suez, and Aden.

1. 2. 3. and *a*. *b*. in print, for easy reference, and forming part of the reports of the Society: the rest in lithography.

Resolutions passed at the meeting of the Society—Feb. 5th, 1846.

"On reference to the accompaniments to this letter, the Governor in Council will observe, that it is now proposed to conduct the very important operations originally contemplated by the Bombay Geographical Society, 1st, by the aid of the Lords of the Admiralty, who have engaged to defray the expence of instruments, a most important item; 2nd, by the co-operation of the Local Government, without which the very limited means and resources of the Society will not admit of the proposed scheme being carried out on an extensive scale with any prospect of success.

"The Society, therefore, indulge in a confident hope, that the Governor in Council will be able to provide the requisite number of Agents for conducting the observations, and also accommodations for such agents, either in public buildings already at its disposal (and this in some cases it is presumed will be found practicable,) or in buildings to be specially constructed for the purpose on the most economical principle possible.

"In return for this assistance, the Society engages to issue the necessary instructions to the Agents employed, to receive and digest their reports, and ultimately to publish in their proceedings the general results of the observations made and registered.

"The Society, I am requested to observe, does not anticipate that the expense which will be thus incurred by Government will be large in amount, or incommensurate with the great value of the mass of information which the scheme embraces, and which they regard to be of material importance.

"The attention of the scientific world has, for some time past, been zealously devoted towards inquiries of this nature, and the Society are anxious that so favourable an opportunity should not be neglected of showing that the British nation is not backward to avail itself of the many advantages resulting from the proud eminence it occupies in the civilized world for prosecuting useful and scientific pursuits calculated to benefit the whole human race.

"With respect to the Agents, it is also apprehended that a very trifling outlay will be necessary, for the Society anticipate, that with the sanction of Government, in the generality of cases persons already in the public service will be found willing to superintend the arrangements suggested. In support of this impression, the Society gladly avail themselves of this opportunity of noticing the praiseworthy exertions of Corporal William Moyes, of H. M.'s 17th Regiment, who, when serving with his regiment at Aden, and more recently at Bombay, has registered with great accuracy and minuteness, a series of Meteorological observations of great value, merely from a natural inclination to devote his leisure to pursuits of this kind.

"I have the honor to be, Sir, your most obedient servant,

"(Signed) GEO. BUIST, Secretary to the Society."

"Geographical Society's Rooms, Town Hall, March, 1846."

The following answer was received:—

"No. 448 of 1846.

"*Marine Department, Bombay Castle, 1st April*, 1846.

"SIR,—I am directed to acknowledge the receipt of your letter, and to request that you will convey to the Geographical Society the thanks of the Honorable the Governor in Council for their very interesting communication; and express the desire of Government to afford to the scheme of concerted Tidal and Meteorological observations which has been propounded, the most effectual co-operation in its power.

"2nd. The Society will remember that they addressed a communication to the Government on this subject on the 25th March, 1845; but that they then indicated, as that communication was understood, the wish that the Instruments and the Agents should be provided by Government, and that the organization of the system, and the conduct of all its parts, should also depend upon the Government.

"3rd. In considering this Memorial from the Society, it appeared to the Government that the places within, or near, the limits of its authority, where Tidal observations would be most useful, were Aden, Kurrachee, and Mandavie. Communications were immediately addressed to the Politcal Agent at Aden, and to the Scinde Government; and the Geographical Society was informed accordingly on the 6th June, 1845.

"4th. The reply from Aden was communicated to the Society on the 21st August, 1845; and a favorable answer having also been received from Scinde, the Government proceeded to take into consideration the further measures to be pursued for working out the intended series of observations. But before any definite steps could be taken, events occurred which rendered it necessary to abandon for the time all thought of operations to be conducted either at Kurrachee or at Mandavie. The required instruments, however, were ordered to be procured and compared, and held ready for transmission to Scinde whenever it might be intimated by the authorities in that Province that the persons to use them were ready for their work.

"5th. For the observations at Aden, a fitting Agent was found in Serjeant Moyes, of Her Majesty's 17th Regiment, whose services were placed at the disposal of Government by His Excellency the Commander-in-Chief. This intelligent man was furnished with all the proper instruments and appliances required, and despatched to Aden on the 2nd February last, where the necessary building for his residence, and Tide-gauge, have been erected under the direction of the Political Agent.

"6th. Forms of records and instructions have been supplied to Serjeant Moyed by Professor Orlebar, at present in charge of the Observatory; and it is intendee that the result of the Serjeant's observations shall be published, together with the Magnetic and Meteorological observations of the Observatory.

"7th. The Geographical Society will, from the foregoing statement, observe what has been done on the part of Government, and be able to judge how far this

is calculated to assist the extensive scheme of Tidal observations which they contemplate. If Agents can be found, the Government will endeavour to make their services available, and to construct, or appropriate for their use, such buildings as may be wanted; and when the scheme is fairly established under the guidance of the Society, the Government will make over to them the services of Serjeant Moyes, together with a record of all the observations he may previously have collected at Aden.

"8th. The Government will not seek to be reimbursed for the cost of Instruments already provided; but conclude that the expense of all those which are required in addition will be defrayed by the Lords of the Admiralty.

"9th. In conclusion, I am directed to request that the Society will furnish to the Military Board two copies of the printed and lithographed papers which accompanied your letter, for purposes of reference.

"I have the honor to be, Sir, your most obedient servant,

(Signed) "P. M. MELVILL, Lieut.-Colonel, Secretary to Government."

"To G. BUIST, Esquire, LL.D., Secretary to the Geographical Society."

To this the Secretary had, under correction of the Committee, replied:—

"No. 14 of 1846.

"Lieut.-Colonel MELVILL, Secretary to Government.

"SIR,—I have the honour to acknowledge the receipt of your letter of the 1st of April, and am directed by the Geographical Society to express the gratification afforded them by the cordial sympathy their exertions have experienced from the Hon'ble the Governor in Council.

"Though the Society had hoped that the whole of the scheme as originally and now submitted to Government, might have been worked out under their superintendence, and are not without hopes that this may yet be the case, they not the less accept with much thankfulness the offer of Government, and shall without delay institute enquiries in reference to agents and arrangements, such as may be found desirable, so as to be enabled to avail themselves of the aid which has been promised.

"On these points the Society hope shortly to be in a position to communicate with you satisfactorily.

"The Society having been long in communication with gentlemen in Scinde on the subject of the observations at Kurrachee and Mandavie, and feeling much confidence in their ability to bring these to an auspicious conclusion, would feel gratified were two points of such importance brought under the general scope of the scheme contemplated by H. M.'s Admiralty, in reference to the records, instruments, and arrangements of all departments, of which perfect harmony and uniformity was considered so essential, instead of its remaining portion of the separate and detached system of which the Bombay Observatory is the centre.

"The Society would meanwhile strongly recommend that an Observatory should be established at the Light-house on the Island of Perim,—a point not

originally contemplated,—as affording an excellent position for the researches in contemplation.

"No structure, beyond the box inclosing the Tide-gauge, is required; the lighthouse itself being sufficient. The greater part of the instruments requisite could be at present provided in Bombay; the Society pledging itself to see Government reimbursed for the cost of these from the funds provided by the Admiralty. An intelligent European could, it is believed, be found by the Marine department to take charge of the observations.

"The Society will be happy to avail itself of the observations and services of Mr. Moyes, and any other assistance Government may confer upon it.

"The Lords of the Admiralty have already pledged themselves to meet the expense of the instruments, and duplicates of the correspondence on the subject will be sent to them, indicating that a more limited demand than that originally contemplated will at present be made on them.

"The Military Board will be provided with two copies of the printed and lithographed papers, referred to at the close of your letter.

"I have the honor to be, Sir, your most obedient servant,
(Signed) "GEO. BUIST, Secretary Geographical Society."

"Geographical Society's Rooms, Town Hall, Bombay, 17th April, 1846."

The correspondence with Government having thus far been brought to a conclusion, the following letter had been forwarded overland to Captain Beaufort, Hydrographer to H. M.'s Lords of the Admiralty, to whom copies of the whole correspondence from the first had been transmitted:—

"Bombay, March, 1846.

"Capt. BEAUFORT, R. N., Hydrographer to the
"Hon'ble the Lords of H. M.'s Admiralty.

"SIR,—I have the honour to forward a further portion of the correspondence on the subject of a scheme of Tidal and Meteorological observations on the shores of the Eastern Seas.

"It will be observed, that the Bombay Government, in their anxiety to advance the scheme originally proposed by the Society, had, during my absence in England, entrusted its execution to Professor Orlebar—the results of the observations to appear in the printed records of the Observatory. This departure from the plan in contemplation, deprives the Society of the charge of the observations expected to have been put in operation, and so far mars the integrity of the plan as to interfere with that unity and harmoniousness of system considered so desirable: the Government instruments already ordered out cannot be rated by the standard of the Royal Society, and the Schedules are already in the hands of some of the observers, and so not referrible to any one. There is, however, good hope, that an alteration, arising from anxiety to advance our plans, not at present apparently calculated to subserve the views of the Admiralty to the extent or in the manner desired, will be reconsidered, and the execution of that entirely planned and projected by the Society once more entrusted to their hands.

"However this may be, there is field and labourers enough behind; and the Society is now prepared to take immediate charge of six sets of instruments—such as those described in my previous correspondence, so soon as they are sent out, with every hope of carrying out the views of their Lordships, and availing themselves of the liberality and good wishes of the Local Government.

"I have the honor to be, Sir, your obedient servant,

(Signed) "GEORGE BUIST."

The matter must rest here for the present. Of the four tide-gauges originally provided, two still remained: these were at the disposal of Government if required.

They had just been fitted up with wooden cases—all that was required in place of an observatory house and well—to adapt them for some obserations on the tides in wells on the northern shore of Angria's Colabah; which, though perfectly fresh, had a bi-diurnal tide of several feet, obviously dependent on, though not apparently synchronous with, the oceanic tide. This matter was proposed to be examined into immediately.

Observations on the specific gravity of the Mediterranean betwixt Malta and Alexandria, had been forwarded by Captain Gossen, of the Oriental Steam Navigation Company's vessel *Iberia*, in conformity with instructions given by Dr. Buist, and instruments partly provided by him. The tables were very complete so far as they extended.

The following papers &c. were then laid on the table:—

PAPERS.

1. *By Government.*—A descriptive account of the Ruins of El-Balad, by Assistant Surgeon H. J. Carter, of the Hon'ble Company's Surveying Brig *Palinurus*, together with Sketches (six sheets) in Original; with a letter from Lieut.-Col. P. M. Melvill, Secretary to Government, dated the 15th April, No. 502 of 1846.

2. *By Government.*—Extract from a report on the district of Babriawar, by Captain G. LeGrand Jacob, late 1st Assistant to the Political Agent at Rajcote, dated the 15th March 1843; with a letter from J. P. Willoughby, Esq., Chief Secretary to Government, Political Department, dated the 25th April, No. 651 of 1846.

3. *By the Author.*—Desultory observations on the probable Origin of the Ghonds; with four water-coloured sketches, accompanied by a vocabulary of the dialect spoken by the Ghond Tribes upon the Gawil Hills; by Assistant Surgeon W. H. Bradley, 8th Regiment Nizam's Infantry, with a note, dated Ellichpoor, 10th April, 1846.

4. *By the Author.*—Mean Hourly and Daily Curves of the Barometer and Thermometer, taken at Ellichpoor for the year 1845, by Assistant Surgeon W. H. Bradley, 8th Regiment Nizam's Infantry.

5. *By the Author—through Lieut.-Col. P. M. Melvill, Secretary to Government.*—Meteorological Register kept, and Horary Barometrical and Thermometrical Observations taken, at Ellichpoor, for the months of January, February, and March 1846. By W. H. Bradley, Esq., Assistant Surgeon 8th Regiment Nizam's Infantry.

Books.

By the Medical Board, with the sanction of Government.—O'Shaughnessy's (W. B., Esq., M. D., F. R. S., &c.) Bengal Pharmacopœa, and General Conspectus of Medical Plants, arranged according to the Natural and Therapeutical Systems—and Webb's (Allan, Esq., B. M. S.) Pathologia Indica, or the Anatomy of Indian Diseases, Medical and Surgical, based upon morbid specimens, from all parts of India, in the Museum of the Calcutta Medical College; illustrated by detailed cases, with the prescriptions and treatment employed, and comments, physiological, practical, and historical—with a letter dated 6th February, No. 176 of 1846, by the Secretary to the Medical Board.

By Jehangheer Pochajee.—A pamphlet containing Persian Verses in praise of Ardaseer Dhunjeeshaw Bahadoor, together with a Guzerattee version of the same; accompanied by a note, dated the 25th March, 1846.

Letters.

From Captain A. McD. Elder, Acting Secretary to the Military Board, dated 12th February, No. 636 of 1845—Marine Department—intimating, by direction of the Military Board, that Professor Orlebar has already undertaken, and the Board have committed to him, the superintendence (under their control) of the measures now being adopted for prosecuting Tidal and Meteorological Observations; and that that gentleman has already procured the Tide-Gauge and Barometers requisite, and has ordered Thermometers and some other instruments from England; and intimating further, that the necessary forms in which the observations are to be registered, are now being lithographed.

From Lieut.-Col. P. M. Melvill, Secretary to Government, Marine Department, dated 1st April, No. 448 of 1846,—acknowledging the receipt of a letter, and conveying to the Society the thanks of the Hon'ble the Governor in Council for their very interesting communication, and expressing the assurance of Government to afford the scheme of concerted Tidal and Meteorological observations, which has been propounded, the most effectual co-operation in its power.

From Lieut.-Col. P. M. Melvill, Military Department, dated 30th April, 1678 of 1846—forwarding copy of a communication from Professor Orlebar, No. 36, dated the 27th of the preceding month, intimating that the proposition of Dr. Buist, that the duty of conducting the Magnetic or Meteorological Observations, &c., should be carried on simultaneously by himself and that gentleman (Professor Orlebar,) appears to be impracticable.

From Messrs. Remington and Co, dated the 20th February, 1846—inclosing copy of the Account Current with them made up to the 31st July last, and exhibiting on that date a Balance of Rupees (1201: 11: 11) One Thousand Two Hundred and One, eleven annas, and eleven pies, in the Society's favour.

From Lieut. J. G. Forbes, 23rd Regiment N. Light Infantry,—requesting that his name may be withdrawn from the list of the Society's subscribers.

From His Excellency Mons. La Grene, French Embassador to China, dated Bombay, 11th April, 1845—intimating, that he feels very highly honoured by becoming a Member of the Society.

An abstract of the votes for the Office-bearers for next year having been made, the following appeared to have been chosen by a majority of votes on the printed lists:—

VICE-PRESIDENTS.

1. The Hon'ble J. P. Willoughby, Esq.,
2. Major-General Vans Kennedy,
3. Dr. J. Burnes, K. H.

RESIDENT MEMBERS.

1. Dr. J. Bird,
2. Major J. Holland,
3. Captain H. B. Lynch, I. N.,
4. The Hon'ble L. R. Reid, Esq.,
5. J. Bowman, Esq.,
6. Dr. J. McLennan,
7. Dr. C. Morehead,
8. Lieut.-Col. P. M. Melvill,
9. Major-Genl. D. Barr,
10. Lieut. G. Jenkins, I. N.,
11. Lieut.-Col. N. Campbell,
12. C. J. Erskine, Esq.

NON-RESIDENT MEMBERS.

1. Major H. C. Rawlinson,
2. Captain E. P. Del'Hoste,
3. Lieut.-Col. O. Felix,
4. Captain G. Fulljames,
5. Captain Geo. Le Grand Jacob,
6. Lieut J. C. Cruttenden, I. N.,
7. Captain T. G. Carless, I. N.,
8. Captain R. Shortrede.

The following statement of the funds was laid before the meeting.

Annual statement of Receipts and Disbursements of the Bombay Geographical Society, from 1st May 1845, to 30th April 1846.

DISBURSEMENTS.

1846.		Rs.	A.	P.
April 30th,	To Printing,.....	621	0	0
..	.. Establishment,.....	564	0	0
..	.. Contingent expenses,.....	113	9	7
		1,298	9	7
..	.. Balance in favour of the Society, viz.....			
..	.. In the hands of the Treasurers up to this date.....			
	Rs..... 2,220 11 11			
..	.. Ditto in the hands of the Secretary 84 12 0			
		2,305	7	11
	Rupees.	3,604	1	6

RECEIPTS.

1846.		Rs.	A.	P.
April 30th,	By balance in the hands of Treasurers this date.....	1,519	1	6
Sept. 10th,	Amount received from Government for supplying 300 printed copies separately stitched of the Report dated 4th October, 1842, drawn up by Capt. G. Le Grand Jacob, late 1st Assistant to the Political Agent in Kattywar, upon the condition of that Province at that period, as per Govt. order dated the 23d August, No. 4068 of 1845.....	150	0	0

Dec. 2nd, Do. Do. from a Borah for 2 old boxes sold.....	1	8	0
1846.			
April 30th, Do. of Govt. subscription for 12 months, at 50 Rs. per mensem...	600	0	0
.. . Do. subscription of members for this year..	1,488	0	0
.. .. Do. of printed copies of this Society's Proceedings sold....	3	8	0
.. .. Do. of copies of Royal Geographical Society's Journals sold.	42	0	0
Rupees	3,604	1	6

(Signed) GEO. BUIST, Secy. to the Society.
Bombay, 30th April, 1846.

The meeting then adjourned till the 1st Thursday of August next.

THE Ordinary Quarterly Meeting of the Society took place in their Rooms, Town Hall, on Thursday the 6th August, 1846, at 3 o'clock P. M.

PRESENT.

Captain D. Ross, I. N., F. R. S., President, in the chair.—Major J. Holland; R. W. Crawford, Esq.; S. S. Dickinson, Esq.; Captain Sir R. Oliver, Kt., R. N.; Manockjee Cursetjee, Esq.; and Captain H. B. Lynch, I. N., Acting Secretary, Dr. Buist being absent from sickness.

The minutes of the last anniversary meeting held on the 7th May last were read and approved.

The following Papers, Books, Maps, Letters, &c., were laid before the meeting.

PAPERS.

By the Author.—Memorandum on the City of Shikarpore, in Upper Scinde, by Captain T. Postans, 15th Regiment N.I., with a letter dated Bombay, 18th May, 1846.

By the Author.—Incomplete notes on a Shipwreck on the Southern Coast of Arabia on the night of the 14th January 1835, by Dr. B. A. R. Nicholson, with a note dated Byculla, 23rd May, 1845.

By the Author.—Barometrical and Thermometrical observations taken, and Meteorological Register kept, at Ellichpoor, for the month of June 1846, by Assistant Surgeon W. H. Bradley, 8th Regiment Nizam's Infantry, with a letter dated Jaulnah, 22nd July, 1846.

BOOKS.

By Government.—Printed copy of the Report by the Superintendent of Roads and Tanks for 1844-45, with a letter from Mr. Secretary Escombe, General Department, dated 13th July, No. 2,309 of 1846.

By the Societe Ethnologique de Paris, through Captain Agcr.—Memoires de la Societe Ethnologique, Tome 1st of 1841, and Tome 2nd of 1845, and 2 copies of the Instruction Generale addressee aux voyageurs, &c., with a letter dated Paris, 2nd August, 1845, from the Secretary of the Societe Ethnologique de Paris, addressed to the President of this Society.

By the Author, through the Societe Ethnologique de Paris.—Memoires sur les progres des Decouvertes Geographique dans l'Ile de Madagascar; and Analyse d'un Memoire de M. Eugene de Froberville, sur les Langues et les races de l'Afrique Orientale au sud d l'equateur in Avril 1846, with a letter from the Author, dated Port Louis, Isle Maurice, 24th June, 1846, addressed to the President of this Society.

MAPS.

By Captain H. J. Barr.—Carte d' Acir et d'une partie de l'Hedjaz et du Nedjd dressee en Arabic d'apres les Notes prises de 1833 a 1840.—Par M. Chedasan, Medecin Inspecteur des Armees d'Arabie, 1840.

By the Author.—The tract of a Route from the mouth of the Indus to Gharra Bunder, navigable throughout the year for the River Steamers—with a letter from W. Fenner, Esq., Acting Master, I.N., dated Hydrabad, 17th July, 1846.

LETTERS.

From Captain G. LeG. Jacob, dated Sawunt Warree, 3rd June, 1846, intimating his having transmitted the amount of his subscription to the Society for 1846-47, and expressing his regret that his time is so intensely occupied with official duties as to prevent his at present becoming an efficient member of the Committee—and he at the same time states that "nearly the whole frontier line of this (the Sawunt Warree) state, with Goa, is incorrectly drawn in our common Maps," and in consequence, forwards a rude outline as a specimen, with a view to the Society's Map being corrected thereby.

From Lieut.-Col. P. M. Melvill, Secretary Marine Department, dated 13th June, No. 866 of 1846, intimating the opinion of Government that Perim Island is very desirably situated as a station for tidal observations, but, from accounts received, considers that no European could live upon it.

Government suggest that, before any thing is done for establishing an observatory on the Island, it should be ascertained whether any person is willing to undertake the observations.

Colonel Melvill further intimates that it is considered that Suma Cassim, the individual in charge of the Perim Light House, who is an intelligent man, might easily be instructed how to make the required observations.

From the Reverend G. Morrison, acting Secretary of the Surat Library, dated the 19th June, 1846, returning the thanks of the Proprietors of that Institution for the copy of the Society's Transactions presented to it.

From A. Malet, Esq., Secretary to Government, Political Department, dated 1st August, No. 3,003 of 1846, acknowledging the Receipt of the 300 printed copies of an Extract from a Report on the District of Babriawar, by Captain Geo. LeGrand Jacob, late 1st Assistant to the Political Agent in Kattiawar, and intimating that the General Pay Master has been authorised to pay to the Secretary of the Society the sum of Rs. 200 on account of the printing expenses of the pamphlet in question.

Lieut. James Felix Jones, I. N.—proposed by Captain Sir R. Oliver, Kt., R. N., and seconded by Captain H. B. Lynch, I. N., was unanimously elected a member of the Society. The Meeting then adjourned till the 1st Thursday of November next.

THE Meeting of the Society of the 5th November 1846 was postponed till Thursday the 4th February 1847, in consequence of there being only one Member, Ali Mahomed Khan, Esq., present.

TRANSACTIONS

OF THE

BOMBAY GEOGRAPHICAL SOCIETY.

Extract from a Report on the District of Babriawar, by Captain G. LeGrand Jacob, late 1st Assistant to the Political Agent at Rajcote —dated the 15th March, 1843.

[Presented by Government.]

Past and present state of the Province of Babriawar.

History of the Province of Babriawar.—The history of this District is obscure, and little further light can be thrown on it than will be found in the 13th para. of my General Report on the Peninsula, dated 4th October last, sub. para. VII.

Origin of the Tribes now inhabiting Babriawar.—The Kattees, who trace themselves to the banks of the Jumna, and were borne down by the tide of immigration to Kutch, were again carried onwards to the Soorashtra Peninsula, about the end of the 14th century, at which period the Babrias were by local tradition settled in the neighbourhood of Than:* whence they previously came, is more doubtful. The Koteelas trace themselves to the union of an Aheer female with a Brahmun of Seehoor. The Dhankras to the Pandwas of Hustnapoor, and the first step known in their migratory career was Puttun (Anhalwara.) The Wurroos claim union with the Poorbundur family by a Dhankra woman. The Aheers, who possess several villages in Babriawar, carry up their lineage to the Somrahs of Sind, and by subsequent intermarriage to the Solunkees of Diu, and even to the Oojen family. The establishment of the Babrias in the district bearing their name, must have occurred shortly after they were driven from Than by the Kattees. The Aheers would seem to have preceded them by some centuries, and to have been the stock into which the others engrafted themselves.

Previous occupants of the soil.—The prior possessors of the district are believed to have been the Solunkees and the Walas, whose name is still traced in the adjoining division of Walack. The Wajas occupied the W. border. I annex (Enclosure I.) the information obtained from the people themselves as to their origin and history. The district is void of inscriptions by which to test their tradition, and of any edifice denoting antiquity.

* They were previously dispossessed of Sovereignty over it, if not partially driven Southward, by the Jhalas.

Character and Habits of the Babrias and Aheers.—The Babrias are more haughty and warlike than the Aheers: these are a peaceable community, ploughing their own lands, and in appearance little above the common agricultural labourer, whilst the Babrias affect more the state of the respectable Kattee. They intermarry with each other, but with the usual Oriental distinction of rank, the Aheers give their daughters to the Babrias and the Babrias their's to the Kattees, the order being only reversed in case of the wealth of the inferior and poverty of the superior grade. Polygamy is common, with no other restrictions than means and inclination: the husband gives the dowry to the parents of the betrothed, who regard it very much in the light of purchase money. Equal division of property is slowly producing the same effect in this quarter as has been shewn to be in operation with the Kattee and minor Rajpoot states. The Babrias have been loosely termed Kattees; but their stock is different, and they have no title to the name. Possessing a very limitted patrimony in a secluded corner of the Peninsula, cut off from direct intercourse with the main body of the community by the Geer, they have come less in contact with the British power than the other races of the country, and retain more of their pristine barbarism: they cherish their blood-feuds with more inveteracy than even the Kattees: their villages are mere collections of mud huts, with generally a low wall of circumvallation, and a ghurrie, for defence.

Religion.—In matters of faith, the Babrias and Aheers are but sorry Hindoos. Their chief Deity is a stone called Shamjee Maharaj, at the hot springs of Toolsee Sham, just beyond the North West limit of their frontier. This is an idol with four arms, supposed by some to represent Vishnoo, though of this the Babrias know nothing. They hold in respect also certain Devees (Goddesses, named Ghatrar, Khoriar, Chawund, and Boot Bhowanee): they are unburdened with ceremonies, and have no restriction in matters of food, save in the article of beef. The followers of Swamee Narain, whose system has penetrated into the remote corners of Guzerat, abstain from all animal food, in common with other followers of the Punt.*

Boundaries and Surface of the Country.—Population.—The boundaries of Babriawar are the Geer hills on the north, the Jolapooree river on the east, the Malun river on the west, and the Sea on the south, as more fully detailed in my general report and map. This district contains seventy-one towns and villages, with a population of about 19,000; some villages belonging to the Rajoola and Ghanla tuppas on the east, under Bhaonuggur; Khuntalla and others on the north, that have become attached to the Amrellee tuppa of Dhanturwa, and those on the east bank of the Malun annexed to the Oona Muhal, which, though originally Babria villages, have been enumerated under their respective states, are exclusive of this calculation. The Jaffrabad Purgunnah of eleven villages, with a population of about 6,000, is included, except where it

* Sect. There are in the Peninsula about 30,000 followers of this Hindoo Reformer, of whom a discription is given in Bishop Heber's Journal, but his character is not held in repute by the rest of the community.

skirts the Geer. The surface of Babriawar is generally level, and contains but few trees.

Agricultural Facilities and Products.—The soil is good, the poverty and indolence of the people alone preventing their turning it to proper account: though water is found at a short distance from the surface, they trust almost entirely to the monsoon, and but few wells have been dug for irrigation. Bajree and til are the staple grains; wheat is raised occasionally in warrees at Nagsree, Meethapoor, Dhoodala, and Chotree; and not more than a hundred maunds of cotton are grown in the whole district. Cattle abound, the neighbourhood of the Geer affording ample pasturage; and the export of ghee, through the port of Jaffrabad, is very considerable.

Extent of a Santee and Weega of land, and the amount of Produce thereof.—The santee of land is here of sixty weegas, the weega being 160 yards by ten: a three bullock santee is termed pucka, and consists of ninety weegas. Fifteen khalsees of bajree and ten of til are the average quantity per santee. The khalsee is of fourteen Goozeerat maunds, and the average amount realized is nine rupees per khalsee of bajree, and fifteen rupees for til.—A table shewing the financial result to the landholder is annexed. (Enclosure II.)

Enclosure No. I. to Report dated 15th March, 1843.

The Koteelas.—Account of the Koteela Tribe of Babrias, translated and condensed from the books of Rawul Bhoga Jugjaun, the Genealogist of the Tribe.

The Koteelas.—The Koteelas sprang from the Janee Brahmuns of Seehor. A list is given in the original of several names said to have reigned there for 225 years. Trikum the last ruler, built the Soorujkoond (tank of the sun) at that place. On being driven from Seehor, he seated himself one day in the skirts of Tullaja, to prepare his food: the daughter of an Aheer of that place, named Dewa Dorela, and her sister-in-law, were passing to fetch water from the well, and saw the stranger attempting, but not knowing how, to cook his meal. The maiden said—this handsome Brahmun seems in distress: the sister replied jestingly, you are a Virgin, do you cook it for him: the other answered, I must do as you bid, seeing that you are my eldest brother's wife, and in the place to me of a mother. On this, filling her pitcher at the well she passed the Brahmun, and said to him, I am your wife, and you are my lord, but he answered not: the virgin, named Shreebaee, then said, if you say no, I destroy myself. The Brahmun then consented. At that time Ebulsoor-walla gave dowers to aid the marriage of one crore of virgins: to him the parties went, and the Chief recognizing Trikum as one of a high race, placed the *Teela* first on his forehead, whence has sprung the name of Koteela, and from this union the tribe. Treekum's eldest son was named Koteela, the second Bhookun in Kattywar, the third Pholo in Gogo Bara. Koteela married into the Babrias, the others remained Aheers. From Juweraj, the third in descent from Koteela, in the course of thirty-six generations eighteen tribes have emanated. The chief was Rana, and his descendants were in

the following order:—Putpat, Kottela, Juweraj, Kala, Sakria, Weeka, Seea, Kala, Juweraj who had four sons viz., Jor, Tola, Sajun, and Sakria: these four were the nephews of Bussia by their mother Sona; they settled at Thankundola, and were named the Thakors of seventy-two tribes. The fourth son Sakria had issue in successive generations as follows: Kala, Jor, Sajun, Selar, Shahpooree, Sathee, Somesuir, Leeka, Moonga, Dhurja, and Bhola.

The Dhankras.—Account of the Dhankra Tribe of Babrias, extracted and condensed from the books of Rawuls Nugajun and Bhoja of Dedan.

The Dhankras.—Dhankra is a Babria descended from the Panduws of Hustnapoor: they dwelled in Patun, whence they came to Jhan Kundola, in the Punchal district, where they resided. Afterwards they migrated to Urneeroo. The genealogy is as follows:—Brumha Shoob, Sabud, Droobud, Tarabad, Amreek, Ukheprut, Sayetun, Pundoo, Pund, whose five sons were Joodishthut, Nukool, Urjoon, Suhdew, and Bheem: these were the nephews of Jaduw, born of Mata Koontee. Bheem's issue was Gutoorguch, born of Hurumba, nephew of Raksush, son of Truelochun's daughter. Gutoorguch's son was Babruk, and his Babria, his was Soom, and his Samla, his Dhandh, his three sons the first Dhankra, the second Khora, the third Dangur: these two were Kattees, and nephews by their mother Magul of Wala. Dhanka's son was Dhank, whose issue were Peegul and Chandoo. The second had issue, Khunsee, whose generation was as follows:—Howl, Kala, Cholrup, Mokul, Shetrum, Humva, Raden, Dewed, nephew by the mother's side of Koteela. Dewra's genealogy was Setrun, Seea, Sajun, and Seea.

The Wuroos.—Account of the Wuroo Tribe of Babrias, extracted and condensed from the books of Rawul Weera, the Genealogist of the tribe.

In the beginning, Mahadeo asked of Krishna to appear unto him in the attractive female form which he had formerly assumed: Krishna consented. From Mahadeo then issued the Virile power.* Goruknauth sprung from the cow-dung (gor) which Krishna had touched, and the Jalundur Duet from the water (jul) in which he had dipped his hand. Gaotun Rooshee had given an imprecation against his daughter Unjnee, that she should become pregnant as a Virgin; she therefore buried herself up to her neck in the ground, and thus remained in the wilderness. By this spot passed Mahadeo and Krishna, to whom she bent her head in adoration. Krishna did not acknowledge the salute, saying, thou hast no guide over thee: she replied, be thou my guide. Krishna then blew into her ear the virile power that he had received from Mahadeo, by which she conceived, and brought forth Hunooman, of whom was born Mukurdhwug. When Ram conquered Lunka, Hunnooman was covered with perspiration in lifting the Droonagur hill, and which dropped from his body into the sea: a fish swallowed it, and gave birth subsequently to Mukurdhwug: his genealogy was Dhwuj Dhwujangee, Dhwuj Weraya, Mor, Dhwuj, who founded Moorvee, and

* The original is too gross to be translated.

established his reign there. From him sprung in succession as follows: Kumdhwug Mucka Soorun, Kunksasoor, Kusyup, Kupeel, Jan Amreek Ukhewurt, Manwusunt, Chukreen, Sayutun, Taljun, Mucka Soorun, Mehe Muggur, Dhwuj, Dhwuj Jethee Dhwuj, Jetwa, Wukeed Meh, Jetroo Magronagajun, who built the Dhank fort of gold and sacrificed his head to his Bhat in the following manner: Sidnath Bama, disciple of Dhondhlee Mul, worshipped his master, who said, I will cause the fort of Dhank to resemble that of Lunka: the disciple replied, the fort of Lunka is of gold. The holy man replied, I will turn the Dhank citadel into gold: then by the power of his science he conveyed the wife of Salwan Gohel from Moongeepoor Patun, and stroked the walls with her hand, which transformed them into gold. On Salwan Gohel finding out what had passed, he brought an army against Dhank, but could not take it. He then asked Putla Bhat to go to his enemy, and beg his head: the Bhat went accordingly, and securing a pledge of Nagjun, demanded his head: the which he accordingly surrendered to him. Nagjun's race is as follows:—Wueddhwuj, Wukeeo, Muheeo, Mehe, Gujkurun, Halamun, Jetwo, whose issue rules in Porebundur. Halamun's sons were Meh and Wukeeo. Meh was united (wurryo) to Mal, the daughter of Rakait Dhankra—hence the Wurreeo tribe. The issue of this union was successively Bhano, Bharmul, Bhoojsee, Mehe, Bakhul, Mehe, Wankra, and Wank, from whom came the Kattees. Poput, of whom sprung the Aheers, and Wurroo, from whom came the Babrias.—Wurroo's issue was successively Dhurm, Golun, Waseeo, Walo, Goghoo, Tajo, Wurroo, Dhayo, Panthe, Soortho, who married into the Muchwa Aheers—his race live at Murmut, at Mandwa, and at Kotra on the banks of the Bhadur: his issue was Waseeo, Waon, Wolo, Golun, Santurkhee, Soya, Kurno, and Sadool, whose sons, Khoro and Mukko, received Nagusree and Kysana. The issue of the third son, Duyo, will be found in the Arodro Book.

The Aheers.—Account of the Aheer Tribe, extracted from the Book of Rawul Jussa Sojana and his Son Bhugwan Jussa Rawul Wago Ramaya, corroborating the same.

In the country of Sind was a king named Somra, who had five sons: the 1st Wag, the 2nd Kamlio, the 3rd Kattear, the 4th Murmul, the 5th Arodro, who settled in the Burda Country.—Wag's race was as follows: Palun, Jaetho, Wasa, to whom were three sons, Jusso, Lakho, and Duyo. Jusso's generation was thus: Aso, Sahir, Satho Wero, who received his grass in Nesraphulee in the Rampurra district. Latho's 2nd son Ruyo received half of Rampurra, and his 3rd son Khoko had three sons: the eldest Moojo, received Jampodun in grass, and hence the Jampodda tribe; his second, Wago, received Jolapoor, hence the Jolapurree tribe; his 3rd son, Rano, had also his grass in Jolapoor, and his issue mingled with the others: the 4th son was Rakho, the 5th Kaloo. Rakho received Ganjawudder, and Sajunwao, which last is under Bhaonuggur; Kalo received Veejooka, which is the same as Deoka, now under Rajoola. The Lakhnotra, and Ram tribes, descended from the Solunkee Rajpoots.—Urjup Solunkee reign-

ed over Deo (Diu.) Rooshro was his son by another caste: he had two sons; the eldest was Lakhnotra, who married into the Soruthia Aheers, and his descendants are termed Lakhontra; the 2nd son Jonto married into the Nepal Aheers. Lakhnotra's son Seehuro had three sons. Desoor received Kowaya, Jhalo received Mugalo, and Danturee the 3rd Khooat received Oontinwuddur and Turyam, which last is now under Oona.

The Wala Rajpoots held sovereignty of yore, from whom sprung Walojee, who had five sons: the 1st, Pinjur, who married into the Aheers, hence the Pinjoor tribe. They received Hurmutyoo Maluniawuddur and Koombharioo, now under Bhownuggur. The 2d, Walojee, of this race had four sons, the eldest Waghosee, from whom the Wunar tribe descend; the 2nd Wawrio, whence the Wawrias; the 3rd Kinkur, from whom came the Kinkras; the 4th Chowur, whose descendants are called Chowur Wunar: their grass was originally in Bugusra, afterwards in Rajpura in the Bhownuggur country, subsequently in Dewkawuddur and Entis. The Putal tribe sprung from the king of Oojen, Vikum Purmar, by a woman of other caste: the issue was Purmar, Dharwo and his Putal, who married into the Aheers, whence the name of the tribe. The Wala Rajpoots were formerly the landholders: many of the Aheers came and took up their residence with them, and on the Walas gradually dwindling away the Aheers fell into possession of their grass.

The Babrias.—Account of the Babrias, as given me by Ala Wurroo of Sakria, and Sangana Bhojkoteela of Wankiod, and others—Timbee, 9th May, 1842.

The Koteelas are considered the highest caste in this part: they are descended from a Brahmun of Seehor, but they are the fewest in number. The Babrias are believed to have come from Than, from whom it was taken by the Jhalas. They migrated to Bugusra, Amrelee, and Koondla, whence they were driven by the Kattees. They then came to this quarter, which was in the hand of the Wala Rajpoots, the same caste as those now in Dhank, from which family the Wala Kattees are derived through Wallogee, who on his way to the Ganges stopped one might at Bhayasur, and slept with a Kakee female. The Babrias at first remained as the Ryots of the Walas, but after a few years they drove these out, and kept possession of the villages in which they had settled. All the seventy-two tribes come from Than. One cause assigned for their leaving this place, is the fear of the Padishah's enmity for having given shelter to two Grassias' daughters, one of them named Bhawunabaee, whom his army wished to seize for him. The Babrias were aided in establishing themselves in Babriawar by Ebhulwala of Jetpoor, then a Rajpoot Gadee. He was the father of the famous Champrajwala, who opposed Feeroz Shah's Army, and was killed by his General Izeo Deen, who erected the great Mosque at Mangrol. A gate at Jetpoor is still named after the same Champrajwala to this day; but the Walas, whose grass extended to Jhaujmer on the east, and Dhank on

the west, now only retain Dhank. Ebhulwalla gave marriage portions to ten million virgins : one of those was an Aheer's daughter who fell in love with a Brahmun, named Trikum, who had fled from Seehor, having killed his brother there. Ebhulwalla was then performing *Jogan*, i. e. portioning off in marriage the virgins of his country, and hearing of an Aheer's daughter being about to destroy herself from unrequited love, Ebhulwalla persuaded the Brahmun to marry her, promising that his offspring should be included with the Babrias, and at their head. The name Koteela was given them from teela, the Brahminical forehead mark. Another reason assigned for the name is the Brahmun and Aheer's daughter having claimed the protection of Ebhulwalla, who replied," umarekot manehe," it is upon my neck : consequently they were called Koteelas. The Dhankra Tribe sprung from Panduws. They were at first the chief tribe, though now held inferior to the Koteelas. They are the most numerous of the Babrias, and next to them in number are the Wuroos. The Wuroos spring from the union of a Jetwa Rajpoot with a Dhankra Babria's daughter, when the former reigned at Bhoomlee (or Goomlee.) Wuroos are still called Jetwas among themselves. My informant Bhoj lost his grandfather Bhoj and uncle Jhalo Koteela, with forty-five other Babrias, and eighteen Bhawurs killed at Kulagud, at the storm and capture of the place in S. 1844 by the Nawab's army under command of his Deewan Prubhasunkur. Their pallias are now at the village of Waud, which has fallen under Jaffrabad, but of which their race are still grassias. When this branch of the Koteela race lost its strength by the power of the Nawab, the Dewan family began to raise itself on its ruins, taking from it the villages of Sur, Goria, and Trakooroo. The Aheers came from the Bunee district in Kutch, where their tribe still exists, and entered Babriawar from the Muchor Kanta by land—and from Deo (Diu) by sea.

The Babrias.—Account given of the Babrias by Jeema Bharot of Morvee, but having grass under Joonaghur, Genealogist of the Nuwab.

The Toour Rajpoot tribe reigned at Delhi for five generations, and being driven thence about the time of the Panduws, Mantal Toour came to Than Kundola, and there reigned. He supported all the people who flocked thither. In consequence of a great famine, the men quitted in search of other homes or occupation, leaving their wives and children at Than : these were of divers castes, and were hence called Bahur or Buhur, which in the local dialect signifies numerous—mixed. They afterwards left and established themselves in the south of the Peninsula, hence called Babriawar. Afterwards Manpul Toour himself took refuge in Babriawar, where his race still exists, and are looked on with respect, intermarrying with the other Rajpoot tribes of the Peninsula. There is one house at Rajoola, Dosajee Toour ; one in Kantur, Manjee Toour ; one in Meetapoor, Panchanjee Toour ; and in a few other places : they have no grass possessions, but receive fees from the Babrias on marriages and other festivals. This race is now named Thakra. The Brahmuns of Seehor, whence the Koteelas are derived, received their

grass in that place, from Sudrae Jysing, the Salunkee Chief of Anhulwara.

The Khant Gohels.—Account of the Khant Gohels on the western borders of Babriawar, and in Naghur, given me by Jussa Gohel of Timbee, and others.

This tribe call themselves Gohels, but they spring from the union of a Khant woman about fifteen generations back, with one of the Palitana family. Raja Gohel, six generations ago conquered seventy villages in this quarter from the Waja Rajpoots : the following remain to them, but now fallen under the Nawab :—

1 Timbee.	7 Samtej.	13 Kandee.
2 Mhota.	8 Wawurdo.	14 Pura.
3 Sunkra.	9 Bhasa.	15 Dhokurwa.
4 Gangra.	10 Oogla.	16 Aleedar under
5 Punehwala.	11 Umbaru.	Koreenar.
6 Oout walo.	12 Wajree.	

These Khant Gohel Khants intermarry with the Khussias, the Mhers, the Mukwanas, and the Khants. The Wajas now retain grass in Roheesa, Simbar, and Gular : these intermarry with the Bhaonuggur, Palitana, Sathee Bhayad, and other Rajpoots.

List of the different Tribes of Babrias, commonly called Babria Kattees.

No.	Titles.	No.	Titles.
1	Koteela	37	Dugao ... ...
	Dhankra		Labhia ... ...
	Wuroo		Khata ... ...
	Ghurga	40	Khasur ... ...
5	Ghoosanba		Khodiala ... ...
	Chamya		Kandhul ... ...
	Boreecha		Nepul ... ...
	Chubhar		Keelkan ... ...
	Chatroja	45	Kateeal ... ...
10	Kareta		Wagla ... ...
	Murmul		Werma ... ...
	Wura		Dangur ... ...
	Wusra		Chondia ... ...
	Luya	50	Khara ... ...
15	Lobud		Khulala ... ...
	Kurena		Khuda ... ...
	Kundhmul		Bholuvla ... ...
	Shankhlia		Weda Bhoopal ... ...
	Suchla	55	Shanja ... ...
20	Bhoowa		Nerala ... ...
	Bharmul		Sujora ... ...
	Bhalera		Shoba ... ...
	Dhurmucta		Kagru ... ...
	Soonwura	60	Mutara ... ...
25	Beparia		Sheeala ... ...
	Kheradot		Kesoor ... ...
	Burela		Dedugra ... ...
	Pooshutia		Shubur ... ...
	Pudeeara	65	Athur ... ...
30	Changur		Veea ... ...
	Chuk		Keea ... ...
	Rakhur		Khaghurda ... ...
	Rathor		Nuvga ... ...
	Naeesa	70	Ladha ... ...
35	Sheenug	71	Dhaudha ... ...
36	Dubhia	72	Oomga ... ...

(Signed) G. Le G. Jacob, 1*st Assistant.*

Enclosure No. II. to Report dated 15th March 1843.

Table shewing the value of one Santee of land under Bajree cultivation.

Average produce after paying the reapers in kind	Rs.	15
Kalsees at something above 9 Rupees per Kalsee	Rs.	137
Expences.		
A 5th share to the Bhagia or household cultivator, thus—		
Paid and Termed	Rs.	27
Seed		2
Labour, exclusive of that in reaping		10
Wuswaya Khumal, viz.		
Sotar, Lohar, Koombar, Hujjam, Durzee, Gamat, Rajghar, and Dhor		13
		52
Net produce to landholder		85
Value of a Santee of land under Til cultivation.		
Average produce 10 Kalsees, or Rupees		150
N. B. No Wuswaya Kumal is charged on Til.		
Bhagia a 5th Share	Rs.	30
Mundanun preparing and cleaning the ground		15
Seed		3
Reaping		10
Labor and extra expences attending Til Harvest		4
		62
Net produce to landholder	Rs.	88

(Signed) G. Le G. Jacob, *1st Assistant.*
(True Extract) J. P. Willoughby, *Chief Secretary.*

Desultory Observations on the probable Origin of the Ghonds, with a Vocabulary of the Dialect spoken by the Ghond Tribes upon the Gawil Hills. By Assistant Surgeon W. H. Bradley, 8th Regt. Nizam's Infantry, at Ellichpore.

[Communicated by the Author.]

The following conjectural remarks upon the descent of the Ghonds, are offered with the hope of drawing attention to the subject, having no merit beyond this to recommend them. The knowledge we possess is by no means very familiar or extended, relating to the obscure tribes found scattered up and down the Continent of India, more especially those isolated communities inhabiting its Mountain Ranges,—a circumstance to be accounted for with the latter races as much from their barbarous habits as in the difficulties their country offers to a freer communication.

The principal facts known about the Ghonds are but very limited, a few of which have already been recapitulated in a former communication. Feeling deeply interested in these inoffensive beings, some pains have been taken to collect a tolerably copious Vocabulary of their Dialect,—at least such as is spoken on the Gawil Hills; which before submitting will be prefaced by some slight references to certain leading features of the race, physical and moral.

In hazarding a Scythian descent for these rude Mountaineers, we shall find, as we proceed in the course of the investigation, so many corroboratory proofs of this assertion, that, though it may be not allowed, still the grounds on which they have been made will at all events, from their plausibility, show they have not heedlessly been advanced. No facts stronger in confirmation can be adduced, or probably so conclusive in their nature, as those relating to their physical peculiarities ; the analogies drawing very closely with those distinctively characteristic of the Mongolian race. In them we see a square broad-faced skull, with low and narrow forehead ; the hair black, lank, coarse and thin, sometimes altogether awanting on the lip and chin : the face broad and flat, with high cheek bones, wide mouth, and thick lips : the alæ of the nose enlarged and flattened : skin swarthy and coarse : features harsh and forbidding : with a frame of body strongly knit, and stature rather under than over the medium height. This is an organization with which the effeminate southern Asiatic has no participation. Placed between the natives of the Deccan, and of Hindoostan Proper, we shall perceive the Ghond's condition to be as little analogous to theirs in a moral point of view as we have witnessed the case in a physical one : so great, indeed, are these discrepancies, that it is quite evident we have to look further a-field for their primogeniture. Even with the Bheels, a neighbouring hill tribe as rude, and even more barbarous, than themselves, between whom we might naturally conceive the possibility of something like identity existing, we look in vain for any such results ; the only similitude traced consisting in one common state of barbarism. Though uncouth and rugged in his nature, the Ghond yet possesses kindly feelings, and if he has not many virtues, he has at the same time not many vices : his great besetting one is a brutal indulgence in drinking, which is carried to excess, but save this single failing, the blandishments of sense seem little to affect his rough nature. Such was the kind of stuff those men were made of who, streaming from the summits of the Caucasus as from a centre, mysteriously overspread the universe in process of time.

The tract of country the Ghonds inhabit, is very extensive, and of the wildest nature ; spread over by the deepest forests and ranges of rugged and broken mountains. From these arise the head-waters of many vast-sized rivers, whose thousand rills come tumbling down into the valleys, producing there the rankest vegetation. Were the industry of Man here exercised in turning the natural advantages to account, Ghondwana might teem with Nature's richest productions. Pastoral pursuits occupy the attention of many ; not a few cultivate the various fertile strips of land occurring along the valleys, reclaimed from the wild jungle or cleared on the hill side ; whilst a remnant, and not a small one either, are found still retaining their old erratic habits, with much of their attending ferocity. These are principally of a tribe called " Nals," or shepherds, whose thievish and violent habits have brought the whole race into an universal and undeserved disrepute. Possessing no very defined notions of the

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rights of property, they are shunned and despised by their own people, and placed by them lowest in the scale of social life, as they concede the highest grade to the "Korkoo," or cultivator; a pleasing proof of an approach towards humanization in so rude a race, where we find pruning hooks and ploughshares usurping the place of swords and spears. None but the Nal goes armed, and then carries nothing but the bow and arrow. All, however, are provided with a small hatchet, serving not only for defence but for employment in domestic purposes as well.

Of their early history, they themselves know nothing; nor are they in the remotest degree acquainted with any event relative to their original occupation of the land. Tradition observes a provoking silence, rendered more so by the absence of a written language: all is therefore left to conjecture and vague surmise, but it is not difficult to conceive what the upshot would be in a case like this, where wandering habits are associated with warlike propensities. Wherever depasturage was found compatible with their wants, there in all probability they would tarry, supposing they were sufficiently powerful to carry out their wishes. The circumstances of their no longer seeming to be a military people, are more apparent than real, for we cannot suppose them holding undisturbed for ages their acquired boundaries, without possessing the power to maintain what they had gained. It is indeed far from being improbable that they are the descendants of those warlike people, immortalized by Hindoo Poets as the Monkey Hosts who, under Hanuman, overthrew the King of Ceylon, and gave rise to those extravagant fables recorded in the Ramayana: for in sober reality Rama was but mortal like ourselves, and son of a King of Oude. Banished from his father's court, he turned ascetic, and dwelt amongst the forests upon the Godavery. His wife Sita having been forcibly abducted by the King of Ceylon, for the purpose of recovering her he seeks the aid of the King of Karnata, who sends an army of his subjects to his assistance, led by the redoubtable General Hanuman, who regains her, and destroys the ravisher. The uncouth manners, and mountain habits, combined with most unprepossessing features, give these mountaineers some pretensions to a Sirnian character in the eyes of their more refined neighbours; and what was probably first applied in bantering derision, has, with a wonder-loving people, now become serious matter of belief. Hanuman is a favorite shrine throughout the Mahratta country, particularly in those villages bordering the country of these mountain tribes.

Reverting to that restless disposition so particularly apparent in the Nals, but existing more or less in all, we may note in it one of many other connecting links to those nomadic tribes we conceive they sprung from, and which is now, as it ever has been, the cause of retaining them in their brutal and uninformed condition, whilst all around has progressed in civilization. No matter how hard gripped they be by want and hunger, they hang back from seeking any service which would impose a check upon their personal freedom: if by

accident they get coaxed into the fact, they seek the first available opportunity of regaining their wild mountain sides, as impatiently indeed as caged birds take wing who had forced their wires. The Ghond must not be judged of by his outward looks. They are but sorry enough; but question him quietly, and you will feel astonished at the haughty notions you hear the miserable being before you holding of himself. He conceives his race were formerly the original masters of the land, and this vain notion is the only approach to anything traditional about himself which he possesses. At this present day, tribes very much the same as these are seen roaming over the wide Steppes of Tartary; and the general identities between the two are far too remarkable to be looked upon merely as strange coincidences. To read the account that travellers give of these nomadic tribes, would make persons at all acquainted with the Ghond character conceive it had been written expressly of them. Bell, in his travels—given in Pinkerton's collection—describes some wandering hordes he fell in with upon the confines of Siberia, as being perfectly distinct from the natives of the place, possessing the Tartar countenance, barbarous in manners yet not savage. Inoffensive, civil, tractable, honest, and not wanting, in courage,—ardently attached to liberty, and spurning controul,—greatly given to intoxication,—their greatest failing perfect ignorance of literature; in matters of religion having obscure notions of the Deity, worshipping the sun and moon, and believing firmly in sorcery or Shamanism. Now there is nothing here set forth but might *mutatis mutandis* be applied with equal force and truth to the Ghond's condition. That very remarkable and revolting charge of being Anthropophagons, which the ancient Scythians have had laid to them, is brought against a portion of these people also. Its uncommon and singular nature makes the instance a valuable one for our purpose, for it would seem that this horrid rite is confined only to one of the three Great Families of the World, of which these people are supposed to form an integrant portion. The old traveller Rubruguis, who was sent by St. Louis to the Cham of Tartary, tell us in the account he gives of his mission, that "the people of Thibet had formerly a custom to eat the bodies of their deceased parents, that they might make no other sepulchre for them than their own bowels, but of late they have left off this custom, because thereby they became odious to all other nations." The Ghonds upon the Gawil Hills deny the existence of the rite amongst their tribes, and they and others of their race who have intercourse with the civilized world, would have very likely allowed such a practice to have fallen into disuetude from the reasons the Friar gives as advanced by the Thibetians: but the case would be different with those wilder tribes cut off from all connection with their fellow men, surrounded as they are by their deep forests, and deeper prejudices, and it is by no means unreasonable to suppose that they would still retain their ancient customs, and it is in those savage regions about the sources of the Nerbudda that these Anthropophagists are found. Horrid as such recitals are, be it remembered

that Strabo says in his time the custom prevailed in Ireland, and Rhodrogenius declares the same to have been the case in Scotland.

In their recognising the Sun as the incorporated essence of the Deity, or material evidence of their Creator, as well as from their vague notions about an eternal reckoning beyond the grave for deeds done in the flesh, we are led to conclude they are not wholly without some knowledge of a revelation of the True God having reached them, though the channels through which it flowed are now no longer visible. The worship of the sun was the great apostacy after the Flood; and it is not improbable, therefore, that their ancestors might have taken this sun worship with them from the plains of Shinar. The Tower of Babel, both from its name and form, had doubtless some connection with this idolatry. The Ghond, in addition to his adoration of the sun, performs a slighter homage to the moon,—believes in the influence of genii over his destinies, and strives to conciliate the good will of the malignant ones by the aid of sorcery, in which he has a firm faith,—this Jadooism being in point of fact identical with the Shamanism of Tartary. They possess no idols, unless we term those huge misshapen rocks such which, from their grotesque appearance, have been invested with something of a supernatural character; smearing them over with oil and sendoor, he pays them adoration. In this worshipping of huge stones, or rocks, may there not be some resemblance traced to similar customs with the Druids? Like them, too, we see their temples are circular enclosures, open to the heavens, formed merely of a low wall of loose stone, the entrance to which is towards the rising sun: opposite, are arranged a row of conical shaped stones, anointed with oils and sendoor, before which flowers, fruits, and seeds, alone are offered. Rings of single stones are often met with in secluded spots, the work of some devout cowherd, within which he pays his adorations. In connection with their religious belief, we must note a curious circumstance of their having the Scythian symbol of the sun, a horse, cut out upon a wooden pillar, on which the sun is carved also. On questioning them upon this particular, they could give no reason for placing the horse there too, beyond it being their wisdom to do so; and all, therefore, we can suppose, is that it has resulted from some shadowy tradition that has been handed down to them. These pillars are two in number, with rude figures of the sun on one, and the sun, moon, and horse, upon the other. Their forms are remarkable; and whether by accident, or design, are of themselves symbolical of the sun, such being the shape those monuments took that were erected to its honor, and hence termed Obelisks, from the God Bel, the solar deity of the Chaldeans.

They can hardly be said to have a Priesthood, but such as it is, they elect amongst themselves, having no other consecration than this to the office. His sacerdotal duties are more connected with

> "The poisonous charms
> Of baleful superstition,"

than any rational adoration of that Great Being whose power and might he recognises in the glory of the great star of day. Neither have they days, or stated times, for worship, but just when the whim seizes them. The Priest has yet another office to fulfil,—the union dating from the remotest antiquity: he is the physician also, as with the ancient Egyptians, none beside them being deemed worthy of so important an office as the welfare of the public health. Perhaps the proofs surpassing all others, demonstrative of the existence of national relationships, are found nowhere so satisfactory as in the evidence of language, and therefore it has been not inaptly termed the touchstone of nations. Dr. Johnstone has some appropriate remarks upon this point, very applicable in the present instance: he says—"The similitude and derivation of language afford the most indisputable proof of the traduction of nations, and the genealogy of mankind; they add often physical certainty to historical evidence of ancient migrations, and of the revolution of ages which left no written monuments behind them." Idioms and phraseology foreign to the original language, would imperceptibly creep in and become incorporated with the mother tongue, were it hedged in as this has been by other tribes all speaking various languages. To such an extent has this occurred, that they now no longer can discriminate this foreign admixture from the older stock; ignorant, too, as they are of the use of symbolical writing. The first consideration in this investigation will therefore be the endeavour to obtain the older tongue, and we think we shall show we have succeeded in taking the first step towards overcoming this difficulty. In a work recently written upon the statistics of Malacca, by Captain Newbold of the Madras Army, he has dwelt very fully upon the condition of the Aborigines of the Malayan Peninsular, who are called Benuas. This race, according to his description, have precisely the same physiognomy, usages, and habits, as we find the Ghonds possessing and—*mirabile dictu!*—an extraordinary versimilitude in dialect as well. A vocabulary of the Benuas has been given by Captain Newbold, and we find upon comparing ours with it, some remarkable examples of verbal concordance,—in those instances, too, where we should most naturally expect to have found them. The examples might have been more numerous had the materials been more abundant, but so far as they go they appear perfectly satisfactory,—agreeing, as they do, in such a general unity of principle. We are therefore led to believe the origin of the Benuas or aborigines of Malay to be identical with the Ghonds; and those words which may be found used in common by both races will probably prove to be the ancient language spoken by the nation they were descended from. It may be remarked, that we not only perceive an affinity of idiom between the two races, but an analogy as well, for both partake of the monosyllabic construction.

Thus, then, to the best of our ability we have endeavoured to strengthen, by all the proofs we had the power of bringing forward, the truth of the proposition set out with,—that the Ghonds have a Mongolian descent. In the absence of all historical evidence, and of any assistance from the tribes themselves, much will be left to mere con-

jecture, but more to those material evidences still visible of an anciant fabric, which, though dim and shadowy, still furnish proofs of a entional existence.

A Vocabulary of the Dialect spoken by the Ghond Tribes upon the Gawil Hills.

	A.		
Above	Ling,dō,gai	Behind	Ta,wun
Advice	Milāp	Belly	Līet
Afterwards	Ta,wun,kun	Belly-ache	Nurr
Age	Oom,r	Benefactor	Die,a,ba
Ague	Ra,rung	A berry	Jho
Air	Ko,e,yo	Better	Khon
Alive	Je,ta	Beware	Khub,be,dar
Alone	Mea,ko,ra	Beak (of a bird)	Cha,boo
To answer	Man,dee,ba	To bend	Ro,za,ba
Ant (white)	Nin,dree	Big with young	Gō,b,bēnē
Ant (black)	Cha,tee	A bird	Tee,tit
Ant (red)	Kul,la	Bird's nest	Tee,sa,ro,ee
Ant (queen)	Koot Nindree	Birth	Kon,nu,ba
Arm	Buo,ra	Birth-day	To,na,din,py,dah kund
Arm (fore arm)	Mil,ghait	Birthplace	To,na,ga,wund da, kun
Arrow	Teer	Bison	Gow,a
Ass	Gud,dree	To bite	Har,ko,ba
Aunt (maternal)	Ka,ka	Bitter	Ka,teek,ba (kadeeg Sana)
Aunt (paternal)	P,hoo,phee	Black.	K,hen,dee
Axe	A,kai	To bleat (as a sheep.)	Rha,ba
Ashes	Hop	To bless	Rhan,eea,ba
	B.	A blister	Pōpōlar
Back	Brio,ree	Blood	Puch,na
Bad	Boor,ra	A blow	T,a,pa,ra
Bag	Tilee	To blow	Hoo,lu,ma,ba
Bamboo	Mat	A blossom	P,hul
Bandycoot	G,oos	Blue	Nee,la
Bargain	Le,a,de,a	Body (of a man)	Ko,mur
Barber	Nrio	A bog	Doo,bee
Basket	Din,doo,a	A boil	Oo,dew
Bottle (leathern.)	Bad,la	To boil	On,da,nee hedge, eba
Bottle (gourd)	Koor,pa	Bondage	Po,ree
To bathe	An,go,lee,la	Bone	Har,dee
Bat—large species	Wool,ta	To borrow	Kurg cha,ga,ba
Bat—small species	Ka,poo,lee	Bosom (female)	Bo,choo
Bachelor	E,ka,la	Bow	Kump,ta
Bee	Doom,boor	Bowstring	Tant
Bee's wax	Mī,ma	Boy	Poi,rea
Bee's nest	Doom,boor,ko oora	Brain	Good
A bear	Ban,ma	Branch (tree)	D,har
Beard	O,ta	Bravery	Go,noi Man,ga,ba
Beetle	Gol,gha	Breath	Dum
To beat	Ko,a,ga,ba	Breast	Cha,tee
Bed-stead	Pa,kōm	Bread	So,kra
Bed	Ben,dil	To break	Dai,jaiba
Betel-tree	Sing	A breeze	Koi,eeo,ko joba
Betel leaf	Cha,koon	Bright	Chum,ka tu,eeba
Before	Soo,too,kund	To bring	Na
To begin	Lu,ga,arua,ba	Brown	Ghon,da sowra
To beg	Bheek,ko,a,ce,ba		
A beggar	Bhee,ka,ree		

A broom	Jūnoo
A brother	Da,dur
Broad	Pus,sar
Bubo	Bud,dee
Buffaloe	Bud,kil
Bug	Go,tree
Bull	An,doo D,ho,ba
Bullock	Dh,oba
Bullet	Go,lee
Bundle	Go,thee
Burden	O,ja
To burden	O,ja cha,ga,ba
To burn	Ju,loo,ba
To burn the dead.	Kora kund juloo,ba
To bury	Ka,ree
Bush	Sun,nee,sung,sing
Busy	Go,noi,Kar,mi
Buttock	Do,proo
Buttermilk	Goor,see
Butter	Loo,nee

C.

Camp	Pur,no
To carry	Na,saya
To care for	Chai,boo,ro,dai,ba
Cat	Min,noo
To catch	Oo,tie,ba
Centepede.	Char,ma,roo
Charcoal	Ko,lea
Cheap	Sas,sar,ta
Cheeks	Jho,ka
Cheta	Sŏ,nŏ,ră
Child (infant)	Tan,ni
Chin	O,ta
Claw	Punj
Clean	A,wul
To climb	Pai,rai,ba
Climbing plant	Ai,lee
Clouds	Ba,dree
Clothes	Loo,boo
Club	Ten,gee
Cock	Kom,ba
Cold	Rar,ung
Cold wind	Rar,ung ko,yeo
Cold weather	Cha,ra
Colic	Liet ka,shoo,v Kasoo: Nurr
Comet	Jud
To come	Hed,gē,ba
Compliment	Go,noi cha,rja
Conjuror	Go,go,je,ba
To cook food	E,she,ne,ba
Cooking utensils	Doo,mee,doi
Coppersmith (bird)	Joo,gee,tee tei
Cord	Do,ra
Correct	Chut,cha
Cot	Par,komp
To count	Om,nigh
Courage	Um,bung,egra
Coward	E,gra,ba
To cough	Koo,ba
Cow	Ghue
Cow-tick	Sit,ta
Crab	Kat,comb
Crime	An,now
Cricket	Ka,ree,ro,yoie
Crocodile	Mun,ga
Crooked	Ko,cha,ed
Crops	Gut,ta,yend
Crops (rain)	Pow,see
Cross	Rag,neen
Crow	Kow,ra
Crying	Yum
Cubit	Moo,ka
Cuckoo	Cu,cke,ra
Cultivation	Ka,tee
Cultivator	Ke,re,send
Curds	Dhye
Custom	Dus,toor

D.

To dance	Choo,soon,ba
Dancing girl	Ga,doo,le,ba
Damp	Too,pu,en
Darkness (night)	Un,dea,ra
Daughter	Tar,rai
Dawn	Goy,moi,or,led,jea
Day time	Dee,a
Daybreak	Oo,j,u,ar,rend
To-day	Ta,ien
Dead body	Go,ien
Dear	Man,ghier
Debility	Tora,ka,jor,ba
Debt	Kurz
Deer	Hir,nee
Deformed	Go,kroo
By degrees	Nangha,ling Nan, gha
Delight	Koo,shee
Dew	Os.
Dhotee	Pen,cha
Difficult	Kat,buc,ka
To die	Go,ju,ba
To dig	Ro,rum,ba
Dinner	Jo,jum
Dinner, to prepare	Jo,jum,ba
Dirty	Koo,moo
Disgrace	Bud,namee
Dislike a person	Deko,ra,een,bang ho,na
Disease	Roo,a
Disobedience	Hook,m bang,hadj, um
Ditch	Ko,dra
To do	Di,ea
Doctor	Ju,cee
Dog	Che,ta v. see,ta

Dog-tick	Tee,koo
Door	Dur,wa,za
Door-post	Bee,aree
Dove	Kark,tah
To dream	Ko,koo,moo,ba
To drink	No,noo,ba
Drinking	Nu,ai
Drunkard	See,doo Noo,nai,ba
Drum	Tom,boor
Dry	Lo,ko,ren
Duck	Bud,duk
Dung of cows	Sen,na
Dung of horses	Leed
Dung of sheep and goats	Len,dee
Dung (manure)	Khut
Dung (ordure)	Khad
Dust	Dhool,lee
Dustoor	Dus,too,ree
Dysentery	Liet Sen,nai,ba

E.

Early morn	Par,ta
Ear	Loo,toor
Earth	B,hoom and otai
East	Gomoi,or,led,coi,nai
To eat	Jum,ma
To eat voraciously	Lag,bein
Eel	Bam,ree
Egg	At,kome
Eggshell	Kok,cher,ra
Egg, yoke of	Gar,rah
Eight	E,la,ria
Elbow	Ko,nee
Empty	Ka,lee
Enemy	Doush,mun
Entrails	A,tee
Evening	Sing,gha,rook,jen
Eye	Med
Eye-lash	Boo,ee
Eye-lid	Kat,rai
Eye-brow	Boo,ee,ree
Eye,(squint)	Tera,tend,dho,do,ba
Eye, (inflamed	Med,hed

F.

Face	Mo,a
Fallow	Pur,reed
Falcon	Mou,rra
Family	Kut,la
Famine	Kal
Far	Lun,ka
Farmer	Bhoom,ea
Fat	Chur,bee
Father	Ab,ba
Fault	Tuk,seer
Favor	Pa,wun,char,ree
Feast	E,gra,ba
Feather	Puk,kur
To feel (touch)	Sa,boo,ai
To feed or graze	Chur,cha,ra,chen,ai, ba
Fertile	Goi,noig dak,ken
Fever	Ru,a
Field	Ka,tee
Feet	Nan,ga
Fig	Lao,ar
To fight	Tar,pun,g,ba
Finger	Bo,to
Five	Mun,ni,ah
To find	Gut,tur,ooba
Fire	Sin,ghul
To fire or burn	Sin,ghul en,dia,ba
Fire-place	Aip,ting
Fire-fly	Pe,pin,jore
Fish, large	Ka,koo
Fish, small	Boom,buct koo
Fine	Go,noig suj,ja
Fist	Moo,tee
Flea	Pis,soo
Flesh	Jil,loo
Floor	Gu,chee
Flour	Ko,lum
Flower	P,hool
Fly	Roo,koo
Flying-fox	O,ra
Foal	Ghoor,ghee kon
Fog	D,hoond
Fort	Kil,la
Foot-path	Jer,ra sung ko,ra
Foot-step	Sin,dree
Forehead	Ta,kree
Forest	Go,noig sing
To forgive	Mu,af,okee
Fornication	Zi,na
Four	Opoon,iah
Fowl	Seem
Fox	Ka,kree
Fresh	Na,ka,ka, hed ken
Friendship	Dos,tee
Frog	Ded,dar
Front	Choo,too,ken
Fruit	J,ho
To fry	E,shein,nai,wa
Full moon	O,goo,num yen

G.

Gambling	Jua,oon,ju,ba
Garden	Bag,h
Gardener	Ma,lee
To gather	Poon,jea,ba
Ghee	Loo,nee
Ghost	B,hoot
Ginger	A,da
To give	Kai
Glad	Koo,shee
Gnat	Mu,ch,eree
To go	Sen,uai,ba

Goat	See,ree
Gold	Gi,teed,ba
Good (very)	A,wul
Goose	Cha,see
Grain	Da,na
Grandfather	A,ja
Grandmother	Ba,ba,yee
Grandchild	Koo,ra
Grass	Jar,ra
Grasshopper	To,tor
Great	Kat, Gad, and Jad
Green	Nee,la
Green flycatcher	Tee,roo
Grief	Kut,ta
To grind corn	Jat,tee,ba
To grow	Ka,doo,ba
To growl	Rag,go,ba
Guide	Be,ga,ree
Gum (trees)	D,heek
Gums (mouth)	Kee,wah

H.

Hail	Gar,ra
Hair	Op
Half	Ad,ha
To halloo	Har,ko,ba
Hand	T,he
Hand-mill	Jat,tee
Handsome	Chaj,jur
Hard (difficult)	Kat bau,ckar
Hard (not soft)	Bo,bor,ba
Hare	Ko,ar,lee
Hark !	A,jee,ma,ba
Harvest	Lo,go,gar
Haughty	Kat dun,dee
Head	Kuppa
He	A,wul yend
Headache	Kup,par ka,so,a,ba
To heal	A,wul yend
Healthy	Rooa,bang,edj,ee
To hear	A,jum
Heart	Dil
Heaven	As,man
Heavy	Go,noi,oja
Hedge	San,dee
Heel	Koor,roo,cho
Herb	Char,ko,nee
Here	In,gun
High	Oo,cha
Hillock	Chun,nee,bul,la
Hills (large)	Kat,gat,ho
Hoe	Ko,da,ree
Hog	Soo,kree (Java)
Hole	Ko,dra
Holy man	De,ko,ra
Honey	Nee,lai
Honey-comb	Koon,doo
Hoof	Koor,nee
Hoopoo	Kow,rea
Horn	Singh
Hornet	Tar,tair
Hot	Gurm
Hot wind	Gam
How d'ye do	A,wul kun,ne,a
How much	Cho,too mar,ta,ka
Huldee	Sa,sung
House	Ou,ra
Humble	Ghu,reeb
Hungry	Ran,g,ai,en
To hunt	Too,too,ing,ba
A hunter	Par,dee
Hurt	Kat ka,soo,ba
Husband	Do,ta
Hut	Sa,nee Sain,g,oo,ra
Hyena	Tur,rus
Horse	Goo,r,g,hee

I.

Ichneumon	Mŭn,gūs
Idiot	Gul,la,ta
Idle	Gum,mun,do
Idol	Go,moi
If	Jo
Ignorant	Ban,ga,dai
Immediately	Na,ka
Impossible	Ba,ka
Impudent	A,ram,ba
In	Ta,la
Indigestion	Liet cha,ren
Industrious	Go,noi ka,mia,ba
Infant	Ko,nea
Infirm	Cha,nee,en
Insect	Ta,khur
Insult	Cha,booee,ba
Intestine	A,tee
Intoxication	Bool,lien
Inundation	Dah go,no,ien
Invalid	Ru,a,ba
Iron	Lo,koon,do
Irrigation	Lor
Itch	Bow,ta,ba

J.

J.	Ing.
Jackall	Ko,lea
Jay	Kach,ta
Jaundice	Mun,doo,ra
Juice	Rus
Jungle-cock	Kom,ba
Jungle-hen	Seem

K.

Kernel	Ta,koo
Key	Killee
To kick	Pan,dia,ba
Kid	See,ra kon
Kidney	Bo,ka
To kill	I,ne,kind go,te,kai
Kindness	M,hia

Kite	Bil,la
Knee	Tong,lea v.toprea
To kneel	O,tun,ga,na,ken
Knife	Choo,ree
To tie a knot	To,la,ba
To know	A,dai
Knuckle	Koon,noo
Kumblee	Kam,ra

L.

Labour	Ka,mee
Labourer	Lo,zo,ga
Lake	Tu,luo
Lame	Lan,gree
Lamp	De,wa
Land	O,ta
Language	Mau,de,ba
Large	Bur,ra k,hat
Lark	Kar,ti,glie
Last	Ta,wun,ken
To laugh	Lan,dai,ba
Lazy	Gum,mon,do
Leaf	Sha,kōm
Lean	Oos,soo,yend
To leap	Oo,id,ba
Learned	Khat,e,lum tha,koor
Leather	Ka,trai
Leech	Jonk
Left	Jūna
Leg	Tal,pong
Lemon	Lim,boo
Leper	Ko,rea
Liar	La,ba
Life	Jū
Light (not dark)	Oo,jew,war,ren
Light (not heavy)	Hul,ka
Lightning	Chee,run
Lime	Chū,na
Lips	Ke,war
Little	T,ha,nee
Liver	Ku,le,ja
Lizard	Chir,moon,ghee
Lizard (red tailed)	Chir,mur,roo
Locust	Tid,dee
Loins	Mi,an
To look	Do,da,ba
To loose	Kho,la,ga
A louse	Shi,koo v. chillur
Love	A,ree,ba
Low	E,ta
Luck, good	Nu,see,bo a,wul
Luck, bad	De,jeanu,see,bo bang
Lungs	Po,pe,sa

M.

Magician	Ju,noo a,rie,ba
To make	A,roo,yai
To make merry	A,nund
Male	D,ho,ta
Man	Ko,ro
Man, old	Sa,na
Manure	K,hut,tee
Many	Go,noi
Mango tree	Am,bee Sing
Mare	Jaf,fai Go,ghee v. Goor,ghee
Marriage	Bee,how
Marsh	Doo,bee
Master	Ma,lik
Mat	Bo,rea
Matchlock	Pa,lee,ta
Meadow	Ya,ka Back,ee,sa
Meat	Jil,loo
Medicine	R,han
Melon	K,ho,la
To Mend	A,roo,ka
Merchant	Buo,wha
Merry	Koo,shee
Mid-day	Bar,ree,p,har
Middle	Ta,lan,ken
Mildew	So,ro,jhen
Milk	Dee,dom
Millet (small var.)	Koo,khee
Mire	Chi,kuld
Minute	De,ja
Mischief	Nog,ran
Mist	D,ho,ar
To mix	Bel,lia
Moist	O,la
Money	Da,ma
Monkey	Sar,ra
Month	Mī,nai
Moon	Goo,mong
More	E,tha
Morning	Pa,thar
Most	Ka,poo,lee
Mother	Ma
Mountain	Doon,ghur
Mouse	King
Mouth	Cha,boo
Murder	Jo,gai,ba
Musk-rat	Kee
Musquitoe	Chick,nee
Mustachios	Mu,sar
Mustard	R,hai
My	Ing

N.

Nail (finger)	Nuk
Naked	Doon,da,ra
Name	Jum,noo
Narrow	Ra,wed jhend
Nation	Jāt
Navel	Bom,be,lee
Near	Mai,ra
Neck	To,tra
Necklace beads	Chac,kree

Neelghaie	Roo,ee
Nephew	Ko,se,rai
Net	Ja,lee
Night	Rat
Nightingale	Jhu,gee
Nine	A,rai,ah
No, not	Bang
Noise, to make	Har,ko,ba
Noisy	Har,koo,yai
North	Ma,r,war,dace
Nose	Mooh
Nullah,large	Gud,dha
Nullah,small	Lŏr
Now	Na,ka,ka

O.

Oath	Ke,rea
Oil	Soo,num
Old	Joo,na
Old man	Sai,na
Old woman	Lai,nee
One	Me,a
One quarter	Pa,sa
Onion	Kan,dee
To open	Ko,la,ga
Ophthalmia	Maid
Opium	A,feem
Otter	Chung,nee
Over	Ling,h
To overturn	Ta,burr
Owl, large var.	Goo,goo
Owl, small var.	Doo,da

P.

Paddy bird	Bug,la
Pain	Doo,ko
Pair	Bar,rea
Palm squirrel	Tourr
Pan of the knee	De,wa,nee
Panther	Kair,rea
Parrot	Ho,rea
Partridge,	Chit,tree
Pathway	Sa,nee sung ko,ra
Peace	Cha,poo,kund
Peacock	Mar,ra
Pearl	Mo,tee
Peg	Koo,ta
Physic	Rand
Pigeon, blue	Kub,door
Pigeon, green	Nee,la
Pillar	Kum,bar
Pillow	Oo,cha,cha
Plains	Seh,wan
Plaster	Ka,se,ra
Plant	Bheet,kai
Plantain (wild)	Tho,ra
To play	Oon,joo,ba
To play music	Roo,ai,ba
A plaything	Sanee sung oon,ju,ba
Plenty	Goy,noi,yai
Pleasure	Khoo,shee
Plough	Nun,gra
To plough	Nun,gra,ba
Ploughman	Ko,ro
Plover	Ta,toin,ghoi
Ploughshare	Que,sa
Plunder	Loot
Pod	Sin,gha
A point	Sen,da
Poison	Zhur
Pond	Dhoo,bee
Poney	Sa,nee sung goor, ghee
Poor	Ghu,reeb
Porcupine	Je,kra
Post	Dar,run
To pound	Ro,roong
To pour	En,dee,ai
Poverty	Da,ma,ka,bang
Praise	Dee,an
Precipice	Po,iee
Pregnant	Göb,bĭ,nee,kun
A present	Dŭr,rŭm
Pretty	A,wul soo,rut
Price	Da,ma
Pride	Kan,nonjen,wa
Prison	Khyde
Produce	Jag,gar,tee
Proper	Chag,ga
Property	Mal
Prophet	Go,go,de,ba
Prostitute	Jū,ta
To prune	Mar,ghair
To purge	Lī,et chen,nai,ba
To put	Do,ai,ba
A purwanna	Pur,wan,gee

Q.

Quarrel	A,prung
Quick	Ai,la,ba
Quiet	E,ha,poo,koo
Quarters (three)	A,fa pa,sa

R.

Rage	Katrag,gho,en
Rags	Pal,loo
Rain	Dha gom,mar
Rainbow	Tam,mak Lo,ne,dee
Rain crops	Par,see
Rain (showers)	Jal,la
Rainy season	A,sa
Rat	Poo,see
Ravine	Poi,ai
Raw	Ku,cha
Ready	Ty,a
To reap	Bo
Red	Ra,ta

Red lead	Sen,door
Religion	Deen
To remain	Ta,roo
Renown	Kat ji,moo
Rent	Lo,jo,ga
Reply!	Man,dea
Reprimand	Dar,ka
Reptile	Kera
Reservoir	How,da
Respectful	Ju,har
Retinue	Ji,loo
To return	Era,kund
Revenge	A,na
Revile	A,rum
Reward	E,nam
Rheumatism	O,lan,dee
Ribs	Se,pree
Rice	Chowl
To ride	Toot,kend
Right	Ju,na
Rind	Sa,lee
Ringworm	Dad
Ringdove	Bow,r,ree
Ripe	Bil,li,un
River	Gud,dah
Road	Ko,ra
To roast	Ra,pug,gai
To rot	So,ar
Rogue	Bou,rah ko,ro
Rope	Do,ra
Resin	D,heek
Rough	Kuk,kum
To run gently	Sa,ruo,ba
To run quick	Jup,poo,sur,vai

S.

Salt	Boo,loom
Sambur	Ro,ee
Sand	Bee,til
Sandels	Kow,ree
Sap	Rus
Savage or cruel	Dun,dee
Scarce times	Kal
To scatter	Yer,rai
To scold	Bi,gri tin,gen
Scorpion	Kee,ding
To scratch	Bar,oota
To see	Dodo
To sow seed	Yai,we,re
Seed	Beenjh
Seed times	Yai,we,re,bo
Servant	Cha,kree
Seven	Ai,e,ah
To Sew	Choo,choo
Shade	Shiea v. Sine
Shame	Gheu
To shave	Ko,ko,i,yo
Sheep	Men,da
Sheet	Ar,charr
Shell	Har,ko,ta
Shepherd	Goo,goo,pee
To shoot	Too,tu,eng
Shop	Doo,kun,da,ree
Shopkeeper	Doo,kun,dar
Shoulder	Kan,doo
To show	Tip,pe,wai
Short	O,tra
Sickle	Ear
Sickness	Rooa,
Sight	Ja,feed
Silent	Char,poa,yai
Silver	Chan,dee
Silly (idiot)	Goon,gah
To sing	Sy,rin,gea
Sister	Jee,jee
To sit down	Choo,banga
Six	Toor,u,ee
Skin	Ka,tree
Sky	Ba,dree
Slave	Poo,ree
Sleep	Gee,tee
Slow	Bar,gai,tten
Small	Sa,nee Sung
Small pox	Mhi,ee
A smell	Soo,king
Smell (bad)	Bour,ra sou,king
Smell (sweet)	A,wul sou,king
To smell	Soo,king,ba
Smoke	Dhoo,a
To smoke a hookah	Hoo,ka nu,ai,ba
Smooth	Boo,le,ree
Snail	J,har,tee ghoo,ree
Snake	Beeng
Cobra snake	Nag
Snake hole	Po,pa
Snake (large rock)	Aj,gur
To sneeze	A,su
Soft	Lo,pot
Son	Po,rea
South	Be,rar dace
To be sorry	Kut,ha
Sour	Kat,ahn
Sparrow	Shee,shur,roai
To speak	Ar,na
Spear	Bur,chee
Spider	Jug,ge,lee ma,la
To spin	Ato,ai
Spirit	See,doo
A spirit-still	Baj,je,ra
To spit	Bhe,jai
Spittle	Bi,te,kee
Spleen	Pe,a
To split	Fi
Spotted deer	Dar,kar
Spring time	Ru,bee
Spring of water	Dar,par,jai
Spur fowl	To,te,ung

Squirrel (palm)	Tourr
To stand	Teng,ghuen
Stars	E,phill
To starve	Go,joo,ba
Steep place	Da,pree
Stick	Kar,tee
Sting	Kar,kob
Stomach	Līet
Stone	Go,ta
To go to stool	A,ju
Stream of water	Lor
Straw	Bhoo,see
To Str ike	Ko,a,ge
Strong	Muj,bhoot
Sugar	Shu,kar
Summer	Gur,mee
To sweep	Ju,krae
Sun	Go,moi
Sun shine	Gam
A swallow	Ka,tig,lie
To swallow	Oo,da
Sweat	Oo,bra
Sweet	Chee,mil
To Swim	Oo,were
Sword	Tul,war

T.

Tail	C,hoot
To take	Sa,gai
To talk	Man,dai
Tall	Oon,cha
Tank	Doo,bee
To Taste	Ta,wa
Tears	Med,dha
Teeth	Tee,ring
To Tell	Ka,hnee
Tempest	D,hoond
Ten	Gul,le,ah
Tender (meat)	A,run,gah
Thanks	Bur,ra,i,amba
There	Dend
Then	Gir,ry
Therefore	De,un,tind
Themselves	Ap,peso
They	Ar,kon,
Thou or you	Hum
This	In,ne (in Malay)
That	Dee,ja
Their	Dee,koo
Thick	Dart
Thief	Chor
Thighs	Boo,loo
Thin	Oo,shoo
Thirst	Ta,tung
To thirst	Ta,tung,nein
Thorn	Ja,noom
Thread	Tha,ga,si,toom
Three	Apea
Threshing floor	Kai,ran
Throat	To,te,ra
Thumb	Bote
Thunder	Sa,dee
To tie	To,lai
Tiger	Koo,la
Tiger cat	Sŏn,nĕră
To	Kund
Toad	B,had
Tobacco	To,mac,coo
To-day	Ta,ing
Toddy	Sindee
Toe (big)	Kat bote
Toe (little)	Sun,nee bote
Tomb	Kom,bee
To-morrow	Garfung
Tongue	Lang
Tooth-ache	Ter,ring kas,soo,ba
Torch	Mus,sail
Tortoise (large var.)	Kut tam
Tortoise (small var.)	Tal tam
Trade	Ka,moi
Trap	Lo,da
Traveller	Sen,nai
Tree	Sing
Tree, bark of	Cha,lee
Tribe	J,hat
Trinket	Sin,gha
Twice	Bar,ree ghur,ree
Two	Bar,rea

U.—V.

Ugly	Krab soo,rut
Ulcer	O,you
Uncle	Ka,ka
Under	E,ta
Unlucky	Boor,ah
Urine	Koo,noom
Valley	Borr,ro
Vegetable	Oo,too
Vein	Nus
Venereal disease	Gur,mee
Village	Ghom
Vomit	Woo,liyen
Vulture	Goo,ba
Virgin	Da,pree

W.

Wages	Moon,sha,rah
Waking	Jac,tai
To walk quickly	Ala,ula,chun,drai
To walk quietly	Ba,ga, ten,bo
Walking	Sin,dra
Wall	Dee,pee
War	Lur,rai
Warm	Lo,lor
To wash	Ah,boon
To wash clothes	Loo,boo,ta,lumba
Washerman	Dho,bee
Wasp	Kōrē,mōs
Watchman	Naroo,ai
Water	Dha

Water-fall	Dha,jor,rho	Wild dog	See,ta
Water-course	Gud,dha	Wild	Jun,glee
Wax	Mīna	Wing	Pur,ka
We	Ing	Wise	De,und
Weeding crops	Kur,kad,dai	Wicked	Bour,ra
A week	E,lar,din	Wolf	Lan,de,gha
Well	Kooa,	Woman (old)	Sa,nee
West	Gomoi,nam,roo coi nai	Woman (young)	Jūan
		Woodpecker	To,tra
Wet	Too,puen	Wool	Pul,lum,oob
What?	De,cho,ema	To work	Ka,moi,die
Wheat	Gaï,hŏong	Worm	Jil,lin,ghole
Wheel	Deo,rai	Wound	Gha,ie
When?	Cho,la	Wrist	Mul,ga,tee
Where?	Din,ghun		
Whip	Co,la		Y.
White	P,hoo,loom	Yam	Kund
Why?	Cho,ja,an,tin	Yawn	Han,ghoo
Who, whose?	Yai	A year	Wur,rus
Wind	Koe,yo	Yellow	Sar,sung
Widow	Lan,doo,ree	Yes	Tha,ka
Widower	Ran,doo,a	Yesterday	Ko,la,din
Wife	Jaf,fai	Young	Jou,an
Window	Ke,wa	You	Hum.

A Selection of Words, Exemplifying an Affinity of Dialect between the Ghonds and Benuas.

English.	Ghonds.	Benuas.
Fathers	Abba	Bapu
Mother	Ma	Ma
Father's brother	Kaka	
Elder brother		Kaka
Man	Ko,ro	Tikkarus
Head	Kap,pa	Kappola
Hand	T,he	Thi
Face	Mo,a	Muka
Eye	Med	Med
Thigh	Boo,loo	Bala
Shoulder	Kan,doo	Kapwah
Nose	Mooh	Muk
Mouth	Cha,boo	Penga-chap
Rain	Dahgommar	Gumar
Water	D,ha	Dhee
Earth	B,hoom	Bhume
Fire		Api
Fire place	Aipe-ting	
An open plain	Seh,wan	Zafung
Ashes	Hŏp	Habu
Morning	Pat,hur	Paggi paggi
Wind	Ko,e,yo	Gumoing
Thunder	Sa,dee	Subtair
Fish	Ka,koo	Ka
Flesh	Jil,loo	Zulo
Sea foul	Mar,ra	Marrak
He or she	De,ja	Dia
They	Ar,kon	Ankki
This	In,ne	Ini
In	Ta,la	Dalum.

NUMERALS.

One	Me,a	Mooi	Three	A,pea	Ampi
Two	Bar,rea	Mar	Four	O,poɔ,ni,ah	Ampat

Familiar Sentences,—English and Ghond.

I salute you,	Ju,ha.
How d'ye do?	A,wul kun,nea.
Who are you ?	Hum yai ?
I am a Ghond,	Ing Ko,ro.
How old are you ?	Chet,too jul,lum ?
Where are you going to ?	Tongghan chen,naiba ?
Is your father living?	Hum,ar A,ba je,ta ?
Where do you reside ?	To,nen ta,ba ?
How far is the village from here ?	Ghom cho,to lan,ga ?
I feel thirsty and hungry,	Ta,tung a,en run,ghee a,en.
Bring me some water to drink,	D,ha sa,ghai.
Cook some meat,	Jil,loo e,see,nai.
The sun is very hot,	Ga,ma go,noi gai,hen.
It is raining hard,	D,ha go,noi ga,mien.
I hear thunder,	Lo,koor Ing ajoor,mai.
The sky is cloudy,	As,man ba,drai ta,ka.
Run quickly to the fort,	Ai,la sa,roo,bai kund gur,rhee.
Walk slowly down the hill,	To,ra ten a,groo,ai.
Jump across that hole,	In,ne pō,pa oo,jai.
Sit down upon the ground,	O,ten choo,bang.
Ride upon this horse,	Goor,ghee choot,ken (or) soo,bang.
Swim across that tank,	A,ra,tum boo,dhee oo,yur.
I have a pain in my head,	Kup,par kas,soo.
I have got a belly-ache,	Nie,līt kas,soo v. nurr.
I have dysentery,	Lī,et chen,nee.
I have vomited a great deal,	Go,noi oo,luo.
By brother has got fever,	Ne,a da,da ru,a,ba.
My sister has small pox,	Ne,a bi,en my,hen.
My father and mother have rheumatism,	I am-ba o,lan,dee.
I feel strong and well,	Ing a,wul.
My clothes are old,	Loo,boo joo,na.
I am too poor to buy new clothes,	Ne,a tang da,ma bang, loo,boo mo,la,ten sug,gee.
I feed goats, and buffaloes,	Bud,kil che,ree ne,a kam.
My brother has many cows,	Ne,a da,da go,noi ghaeko.
My uncle owns sixty sheep,	Ne,a ka,ka sath menda.
I shall plough, and then sow koodkhee,	Ing na,na,gai,ba koo,d,khee errai,ba.
My wife rears fowls,	Ne,a jaf,fai sim,koo pal,la,ting,wen,
You must not be angry,	Hum bak,kee ra,go.
Do not cry, but laugh,	Bak,kee yum, fen,nai lan,dai.
It is wrong to get drunk,	Dee,khat nō,noo,ba boo,ra.
An empty belly is a bad thing,	Lī,et ka,lee boo,ra.
When my belly is full, I am very happy,	Ne,a līet go,noi be,ken,go,noi koo,shee.
I saw a tiger asleep,	Ing do,gai,ba koo,la gee,tee ken.
I have killed three bears,	Ap,pe ban,na,koo Ing go,at,kai.
I am fond of hunting,	Ne-en too,tu,yee go,no,ien koo,shee.
It is dawn, let us go,	Oo,ja,ren chen,nai,ba.
Let us sleep an hour in the shade at noon,	Ba,ra pu,ha,rin nea ghur,ree si,ne gho,it, ee,ba.
The evening has come, let us sit down,	Sin,gah,roo si,ne soo,bung,ba.
When it is cool, let us eat our food,	I,ra,rung,ba ,chok,ra, ju,ja,omba.
It is night, let us go to sleep,	Rat,ko gee,tee,bee.

A descriptive account of the Ruins of El-Balad. By Assistant Surgeon H. J. CARTER, of the Hon'ble Co.'s Surveying Brig *Palinurus. Together with Sketches in original, in six sheets.*

[Presented by Government.]

ON the south eastern coast of Arabia, in the district of Dofar,* are the ruins of El Balad, (البلد Arab.) situated on the shore, in Lat. 17° 1′ N and Long. 54° 12′ 30″ E., between the towns of Silalah, and El Hafa on the west, and that of Dareez on the east, separated from the latter by a grassy plain of more than a mile in extent, and from the former by the same distance of richly cultivated ground. In front, a narrow slip of sandy beach divides them from the sea, and behind them the level plain of Dofar stretches back to a lofty range of mountains, which forms the inland boundary of this district.

The ruins, situated within one hundred yards of the sea, are spread over an area of two miles long, and six hundred yards broad, and consist of extensive mounds of loose hewn stones, worn and blackened by long exposure to the weather. Groups of columns surmount each mound, with capitals, shafts, pedestals, and fragments of ornamental sculpture, strewed around them; and occasionally troughs, used for baths; all of which having been skilfully worked out of solid blocks of freestone, give an air of costliness and importance to the remains of this city, which, contrasted with the dilapidated state that the whole now assumes, forcibly recalls to the imagination the activity, wealth, and prosperity, which but a few centuries ago existed where now there is nothing but a vast accumulation of desolate, dismal, and unfrequented ruins.

However much the hand of time has succeeded in mixing up the remains of one building with that of another, the widely spreading and superincumbent masses of ruins may have obscured the foundation on which they were originally erected, or the Arabs of the neighbouring towns may have stript this deserted place of its most valuable onaments,† enough still remains to place beyond doubt the original extent of the city, the style in which it was built, the sites of its principal edifices, its architecture, its burial-ground, and particularly the walls and ditches of that part of it which was fortified, each of which when described as they now present themselves, ought not only to convey to us an idea of what the ruins of El Balad now are, but also of what the city must have been in its most prosperous state.

Of the City.—This was divided into an eastern and a western portion, the former of which was *fortified*, the latter *unfortified.*

* The district of Dofar (ظفار Arab.) is the most extensive of the lowland tracts that intervene between the mountains and the sea on the south-eastern coast of Arabia. It possesses a rich arable soil, and an abundant supply of fresh water. At present its coast limits are considered to be the village of Thagah on the east, and Ras Al Hammar on the west, from which two points the mountains recede from the sea to a distance of fifteen miles, leaving an interval which is filled up by the lowland now known by the name of Dofar.

† I was informed that many of the pillars in the mosques of Dareez and the now deserted village of El Robaat were taken from the ruins of El Balad.

The *unfortified* or western portion considerably exceeded in extent that which was included within the walls of the garrison, and now consists of a vast number of irregularly disposed mounds of hewn stones, each of which is characterised by the presence of two or more columns on its summit, which still retain their original position; while others that stood beside them, having been upset and broken, lie scattered around with portions of ornamental sculpture, cornices, and the like,—remnants of the arches, ceiling, and walls, that once formed parts of the building. Although this portion of the city was the most extensive, and included the *burial-ground*, yet it is now by far the most insignificant part of the remains, in so much as nothing more can be satisfactorily made out of it than that the dark mounds of loose stones mentioned mark the sites of so many buildings: nor is there in the *burial-ground*, which was situated in its northern quarter, hardly any thing more to attract the notice of the observer than the remains of the commonest headstones, on none of which could we discover any date.

It will be hereafter seen, that though the western exceeded in extent the eastern or fortified portion, the latter originally possessed the finest buildings, and was the most important part of the city, as testified at the present day by the remains of its fortifications and the heaps of ruins that are enclosed within them. It is also in the eastern part that we most satisfactorily recognize the remains of a foreign and highly civilized people, their prosperity, their decline and fall: they were the first and the last probably, who ever succeeded in establishing themselves in the district of Dofar.

Of the Garrison.—The fortified part of the city was confined within a parallelogram, or quadrilateral space twelve hundred and forty yards long and five hundred yards broad, extending longitudinally along the shore, defended by a deep ditch and rampart on three sides, and on the fourth, or that towards the sea, by a strongly fortified wall. The ditch, which was for the most part a natural defence of the fortification, was formed by a fresh water *Khor*, * now known by the name of the *Khor*

* Khor (خور Arab,) a creek or inlet of the sea, is generally applied by the inhabitants of the south-eastern coast of Arabia to the water that remains at the *débouchement* of a mountain torrent into the sea, many of which occur in the district of Dofar. Some of these retain their original freshness, while others, communicating with the sea through the sandy beach, become brackish. That of El Balad is fresh, and as it does not appear to be connected with the bed of any torrent, there is some difficulty in conceiving how a large body of water such as this is, on a level with its banks close to the sea, and much above the level of the latter, should not diminish in quantity or become brackish. I have an idea that this *Khor*, like some others that I have seen in the neighbourhood, are natural artesian reservoirs, so to speak, which have been produced by some volcanic succussion or other cause, in rending open a deep fissure in the ground, which communicates below with a spring of water. The opinion of the inhabitants that many of these *Khors* are bottomless or of great depth, although it favours the supposition, is far from establishing the fact.

of El Balad. This was subjected to a little alteration and extension, for the purpose of more completely enclosing the garrison; and while it was admirably adapted for the purpose to which it had been converted, it afforded close to the sea, both to the city and fort, a never-failing supply of excellent water: indeed, so convenient a situation could not again be met with on the coast. The only artificial part of the *Khor* appears to have been the western ditch, which is now dry and partly filled up with sand and ruins: this was twenty seven yards wide and four hundred and three yards long, extending from its junction with the western extremity of the northern ditch to within one hundred yards of the sea; and on each side of it was a strong wall, the remains of which are now nearly buried under heaps of adjacent ruins.

The *Khor* itself consisted of the main body, or northern ditch, and three roots or branches, the first of which, given off from its northern side, runs inland; the next, from its southern side, forms the eastern ditch: while the third is the continuation of the main body itself in a tortuous direction towards Dareez.

Beginning from the western extremity of the northern ditch, which at this point is sixty yards broad and partly filled up with rubbish, the water, as we proceed eastward, gradually becomes deeper, and a thick belt of [illegible] springing up on each side, leaves a clear channel in the centre, which abounds with a variety of water-fowl. Before reaching the eastern angle of the garrison, it gives off from its northern side the inland branch, which, after an irregular course of three hundred yards, ends in a sharp-pointed shallow extremity. After this the branch which forms the eastern ditch is given off from its southern side [illegible] and forty yards from the north-western angle of the [illegible], and this, running directly towards the sea, terminates [illegible] on the sandy beach; while the third branch is continued on in a [illegible] course from the main body itself towards Dareez, terminating in a [illegible] extremity like that of the inland branch.

The widest part of the *Khor* is that opposite the north-eastern angle of the garrison, [illegible] at this point in the northern ditch more than [illegible] yards across. In the deepest part it does not appear to exceed [illegible] feet, but I had no means of ascertaining this: the inhabitants [illegible] have an idea that it is bottomless. Its edges, like those [illegible] and regular, and in no part bordered by swamp [illegible] filled with fresh water, and does not appear to [illegible] or be affected by the rise and fall of the tide, [illegible] branch terminates in the loose sand of the beach, [illegible] of the surf. Thus, while this *Khor* formed [illegible] it afforded at the same time an abundant [illegible] water to the garrison; and at the present day, from its [illegible] cheapest and most convenient places [illegible] water" at.

[illegible] garrison were principally confined to the southern [illegible] being the least protected by natural defences;

while an embankment, or kind of rampart, thrown up from the ditch, supplied their place along the northern and eastern sides of the *Khor*.

The rampart or embankment on the north side,—or perhaps breast-work would be the best term for it, as it was never very considerable, —was continued from the north-western to within forty yards of the north-eastern angle of the garrison, where it now turns abruptly towards the south, for a distance of fifty-two yards, and then following its original direction, arrives at the border of the eastern ditch, leaving a square portion at the north-eastern angle, over which the *Khor* occasionally flows during the rains. Although mounds of ruins frequently occur along this embankment, there is not the remotest trace of the original form of the building preserved in any of them. On the eastern side a small round tower, with the remains of a wall and rampart on each side of it, marks the termination of the northern embankment in that thrown up, on the eastern side; and from this tower the eastern embankment was continued on to the south-eastern angle of the fortification, presenting in its course the remains of a landing place, on the border of the ditch, corresponding with one which will be found to have existed in a similar position on the western side.

Having described the embankment which was thrown up on the inner borders of the northern and eastern ditches, we now come to the remains of the wall which defended the southern side of the garrison; and commencing at its eastern extremity, or the south-eastern angle of the fortifications, we shall follow it westward to its termination at the south-western angle.

The remains of a small round tower marks the angle of union, between the eastern embankment and the southern wall, and immediately on the west side of it is the threshold of a narrow doorway, from which the foundation of a wall four and a half feet thick can be distinctly traced on in a straight line for three hundred and nine yards; with thirteen salient mounds in its course, at nearly equal distances from each other, on each of which are the remains of the foundation of a round tower, formed of *concavo-convex* blocks of stone strongly linked together. The remains of this wall, which appears never to have been carried beyond the foundation, terminates at a point where a flanking bastion or tower was run out thirty yards into the beach; and from the base of this, in continuation with the original direction of that from the south-eastern angle, a stronger wall, which, from the parts that remain, and the quantity of ruins round it, had evidently been completed, was continued on for two hundred and fifty-five yards, where a similar bastion to the last mentioned stretches thirty yards out into the beach; and between this and the former one were four other smaller salient towers, equi-distant from each other, projecting two-thirds of their diameter beyond the wall, the whole now enveloped in heaps of ruins. From the last point to the south-western angle, where there is another strong bastion or tower extending outwards towards the sea on a line with the other two mentioned, all is obscured under a confused mass of ruins. The remains of old have become mixed up with those of modern build-

of El Balad. This was subjected to a little alteration and extension, for the purpose of more completely enclosing the garrison; and while it was admirably adapted for the purpose to which it had been converted, it afforded close to the sea, both to the city and fort, a never-failing supply of excellent water: indeed, so convenient a situation could not again be met with on the coast. The only artificial part of the *Khor* appears to have been the western ditch, which is now dry and partly filled up with sand and ruins: this was twenty seven yards wide and four hundred and three yards long, extending from its junction with the western extremity of the northern ditch to within one hundred yards of the sea; and on each side of it was a strong wall, the remains of which are now nearly buried under heaps of adjacent ruins.

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The widest part of the *Khor* is that opposite the north-eastern angle of the garrison, exceding at this point in the northern ditch more than one hundred yards across. In the deepest part it does not appear to exceed fourteen feet, but I had no means of ascertaining this: the inhabitants, however, have an idea that it is bottomless. Its edges, like those of a canal, are firm, dry, and regular, and in no part bordered by swampy ground. It is always filled with fresh water, and does not appear to undergo any diminution, or be affected by the rise and fall of the tide, although its eastern branch terminates in the loose sand of the beach, within one hundred yards of the surf. Thus, while this *Khor* formed the ditches of the fortification, it afforded at the same time an abundant supply of fresh water to the garrison; and at the present day, from its proximity to the sea, is one of the cheapest and most convenient places on this coast for a ship "to water" at.

The walls of the garrison were principally confined to the southern and western sides, these being the least protected by natural defences;

while an embankment, or kind of rampart, thrown up from the ditch, supplied their place along the northern and eastern sides of the *Khor*.

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ings, and the accumulation of stones and mounds of ruins and of rubbish now effectually preclude all possibility of tracing the southern wall further than the point mentioned, although there can be no doubt that it was continued throughout the remaining part of the southern side.

To complete the fortifications, we have lastly to examine the western side of the garrison; and commencing from the tower that was run out towards the sea from the south-western angle, we observe the remains of a strong wall, without any towers along its course, which existed between this point and the north-western angle, with the remains of a building projecting from it into the ditch, in which there were four rows of columns, six in each row. This appears to have been a landing place, similar to that on the eastern side, from and to which passengers were either conveyed in a boat, or passed over a drawbridge into the garrison, in order that there might be no public thoroughfare through the southern wall, which would have materially weakened that part, the least strong, of the fortification. The remains of this wall, like that on the southern side, are almost obscured by its own ruins and those of adjacent buildings, and nothing more can be made out of it now than that the wall itself did exist, and there was in its course a building which projected from it into the ditch.

Thus we have now followed the remains of the ditches and fortifications round the four sides of the parallelogram, or of that part of the city of El Balad which comprised the garrison: we have seen it surrounded on three sides by ditches, and on the fourth by a strong wall with an embankment thrown up on the inner side of the northern and eastern ditches, and a strong wall against the western ditch, with the remains of a narrow entrance close to the western side of the small tower that marks the south-eastern angle, and the ruins of a landing place projecting into the eastern and western ditches. Let us now direct our attention to the traces of ruined edifices within the garrison, as it is only here that we can find any that will admit of a particular description.

Of the Citadel.—The highest and largest mound of ruins within the garrison appears in the north-western angle, and this probably is the remains of the citadel. Whatever the building or buildings might have been, they were confined to a square area of one hundred and twenty yards, and surrounded by a strong wall. In the centre of this area stands the mound of ruins, the most elevated point of which is thirty feet above the surrounding plain, a height much exceeding that of any other part of the ruins. On its summit is observed an opening four feet square, which descended to a well beneath, so that water could be immediately drawn to the top without any further trouble; and some way down it, on a line with the base of the ruins, two archways may be observed, the extremes of two passages leading to the well from beneath. A short distance below these the well appears to be filled with rubbish, no water being visible. Nothing else can be made out on the summit of this mound except the remains of

a brickwork building, the only one of this material among the ruins. This, from its lightness, was well adapted for a superstructure, and if it formed a part of the original building,—and there is no reason to make me think otherwise,—it must have considerably added to the height of the citadel ; but the whole has been so disfigured and disturbed by modern attempts to erect a dwelling there, that no trace hardly remains of the original state of the ruins, much less of that of the building they composed.

Of the Temple or Mosque.—Within a hundred yards of the citadel, elevated on a mound from eight to twelve feet above the surrounding ground, are the remains of a temple of a quadrangular form, having its longest diameter directed towards the west-north-west, or in the direction of Mecca. It was forty-five yards long, and thirty-six yards broad, and originally contained one hundred and eighty-three pillars, with an area thirteen yards square in the centre. The pillars were disposed around this area in rows of seven deep, on the west-north-west side, and of four deep on all the other sides, and at the time the building was perfect, no doubt contributed to form double or treble colonnades around it. The pillars that remain average twelve feet in height, including both capital and base. They were for the most part roughly though symmetrically sculptured with round or octagonal shafts two feet in diameter, and nearly all hewn out of solid blocks of stone. Although but few of the columns still retain their original position, yet the bases of those which have been upset, or taken away, remain, and satisfactorily point out the lines in which the whole were formerly disposed ; while the floor, which is now almost entirely concealed, from the accumulation of rubbish over it, was composed of flags of the same stone as that from which the columns were hewn.

Of the Dwelling House.—The houses were also built on mounds raised from eight to twelve feet above the ground, and consisted of one large room on the ground floor, with a small walled enclosure attached to it. One side of the building invariably faced the north-west, or was directed towards Mecca, and within, two or more rows of columns of four or six deep, according to the size of the room, supported semi-eliptical arches on which rested the ceiling. On most of the mounds two or more of the columns still retain their original position, while the others are lying round them either in a broken or an entire state, mixed up with various ornamental fragments of the dilapidated building. A little flight of steps in one corner of the basement story led to the upper part of the house, and the doorway was situated in the centre of the side opposite to that which faced the west-north-west, so much in the manner of a Mahomedan place of worship that did not every mound possess the same features we might be induced to think that they really were the remains of small musjids. The enclosure, which was on the same side of the building as the doorway, was divided into two parts : that nearest the house was open, and had a pathway leading through it from the gateway

of the enclosure to a flight of steps at the threshold of the doorway ; while the outer portion was again divided into two parts by a central wall, on one side of which were two stone baths, and on the other a well four feet square and fourteen feet deep, with its sides smoothly plastered, from the top of which a gutter passed through the central wall, and, communicating with the baths on the opposite side, afforded a convenient means of supplying them with water.

N.B.—In these descriptions the dryness of the detail will be considerably decreased, and the whole much better understood, by an occasional reference to the plans and the accompanying drawings.

Of the Inscription.—On the southern side of the temple, and about one hundred yards from it, are the remains of a gateway, at the foot of which lies a large block of stone obliquely broken through the centre ; when entire it was fourteen feet nine inches long, and two feet two inches by one foot ten inches broad. It was so imbedded in sand and ruins, that it was with difficulty we could scrape out a hole beneath it large enough to place the head in for the purpose of ascertaining if it bore any inscription on the side which was next the ground. This effected, however, we recognised some Arabic characters in relief on it, and on communicating the fact to the Commander * of the H. C. Brig *Palinurus*, that gentleman expressed a wish that the stone should be turned over for the purpose of ascertaining if there was any date discoverable on it. Accordingly the next day we landed, and after having accomplished our object, found the inscription placed on the broad side of the stone, extending to within one foot eight inches of one end and to within two feet eight inches of the other, so that it was not exactly in the middle. It originally consisted of two lines of Arabic characters, interrupted in the centre by an ornamental portion. In the upper line beginning on the right hand side the words بسم الله الرحمان ا ل *bismillah ir hman ir* are plainly seen, and at the termination of the same line on the left hand side appears to be the word الله *allah*. In the lower line also the Arabic characters are distinctly visible; but the whole having been sculptured in the form of an elaborately ornamented caligraph with the central part nearly effaced, and the ornamental parts in some places remaining, while the radical forms of the letters themselves have disappeared, leaves what is left in a much more undecipherable state than if there had been nothing more inscribed than the simple letters themselves ; so that, after all our trouble, we could ascertain nothing further than that the inscription was in the modern Arabic character. In the plan the stone has been drawn as if in its original position, which faced the west-north-west ; the circumstances connected with the history of its present position, and broken state, will be adverted to hereafter. It was supported in the manner of an architrave, on the sides apparently of a gateway, of simple but massive architecture, and was elevated more than thirteen feet

* Captain J. P. Sanders, I. N.

above the level of the ground; but the foundation being buried in the general mass of ruins, its real height could not be exactly ascertained. The blocks of stone of which the pillars or sides of the gateway were built, average four feet long, by three feet square at the ends, and they were all so accurately squared, and so skilfully and smoothly hewn, that where they still retain their original position their lines of contiguity are scarcely discernible.

A plan of this gateway will also be seen among the accompanying drawings, in which the stone has been restored to its original place, and the sheets of cartridge paper contain impressions of the only parts of the inscription that remain.

Ornamental Sculpture.—Of this, which was all in the Arabesque style, but little now remains among the ruins of El Balad. The place has been plundered of its principal pillars and ornaments, for the purpose of enriching the Mosques of El Robaat and Dareez; and no doubt the Mosque of Silalah possesses its share of them, for it will be presently seen that the last governor of Dofar, * who lived at Silalah, was not more insensible to the beauties of the sculpture among the ruins of El Balad than he was averse to seize any thing else that he thought worth possessing. Still, however, enough remains to give a fair idea of the costly sculpture with which many of the buildings were adorned, as well as the superior way in which the designs were executed. Those who built the city of El Balad, and those who worked out the designs of the architects, are no longer to be found in the district of Dofar: they were evidently not the barbarous inhabitants of the southern coast of Arabia. The taste which is displayed in the elegance of the designs in the few specimens of sculpture that remain, must have been brought from another country, and those who imported it were evidently from another country also,—and from one more civilized than the inhabitants of the south-eastern coast of Arabia could ever boast of. But to return to the subject. The arches on which the ceiling or flat roof (whichever it might have been) rested, were semi-eliptical, and the pillars which supported them averaged twelve feet in height; the latter were finely proportioned with round or octagonal shafts, and with handsome Arabesque designs, sculptured in bold relief on all sides of both capitals and bases, and in most instances were hewn out of solid blocks of stone.

Among the drawings will be found the form of the arch, also a specimen of the simple and ornamented column, with the pedestals of two other columns, on which are also represented designs in Arabesque.

History.—On the following day after we had examined the ruins of El Balad, the commander of the *Palinurus* expressed a wish that

* Saiad Mahomed bin Ageyl, a native of Mocha, and one of the famous Ageyl tribe, on whom the Caliph, in reward for their great services in Spain, bestowed the banner of the Royal Standard of that country, by which the tribe is still recognised.
Forster's Geog. Arab., Vol. I., p. 4—note.

I should visit the Shaykh of Dareez, as he had formerly shewn much kindness to Lieutenant Cruttenden, I. N., when passing through that town; and as I had already made the acquaintance, and had accepted the hospitality, of the Shaykhs of the other principal towns of Dofar, it might have appeared invidious to have left out the Shaykh of Dareez, and in reality would have been, under the circumstances, highly uncourteous and ungrateful,—more particularly at that time, when, from jealousy or disagreement, the inhabitants of one town durst not go to another without being attended by some of their friends as protectors, or as a guard. With this view, then, accompanied by an interpreter, I landed at the place where the boats were taking in water, and, independently of the entreaties of the people who were present from the towns of El Hafa and Silalah that we should not go to Dareez, and their absolute refusal to accompany us thither—urging as a reason, that it was next to death to approach the place,—we walked away to the town, and having found out the Shaykh's house, were forthwith admitted and shewn up to the top of it, where we found the Shaykh in a long room, which they call the *kassar*, or palace, reclining on a couch. He was aged, blind, and infirm, but immediately called for assistance that he might rise to receive us. In a short time the long room was thronged with his family and visitors, and in the midst of every species of hospitality, with earnest solicitation to remain the night that we might be made more sensible of the great desire he had to show us every kindness in his power, I took the opportunity of obtaining from him, through the interpreter, the following scrap of history connected with the ruins of El Balad.

As this subject was one of great interest to the whole of the party present, seeing that in all probability it would lead to the history of the Shaykh's own family, whereby I should be made acquainted with his ancient descent, and thoroughly satisfied of his hereditary right and title to the Sultanship and Government of Dofar, now divided among the petty Shaykhs or Hakeems of each town in that district, all listened most earnestly and respectfully, while the enfeebled old man summoned to his recollection, and delivered to us, the traditional history of El Balad, and the subsequent rulers of the district of Dofar.

Whether El Balad, "The City" *par excellence*, was in reality the ancient name of this place, or whether the real name has been lost and the more modern one of El Balad has been found the most convenient term to supply the deficiency, I am unable to determine: be this as it may, it appears to have been built about the middle of the sixth century of the Hajarah, by Mahomed bin Mahomed Al Habozi, Wazier of Mahomed bin Mahomed Min Gooee, the last member of that family who held the Government of Dofar.

According to the Shaykh of Dareez, the Min Gooee family came originally from Balk about the commencement of the sixth century A. H., (others say from Hadramaut) and first settled in a little town on the borders of *Khore Roree*, three miles east of Thagah, the remains of which are still visible. From thence

they removed to Dofar, where they appear to have acquired so rapid an ascendancy over the inhabitants that the Chief of the family assumed the title of Sultan of the district, and built a large town there, the remains of which, in the same style as those of El Balad, are scattered over a large area one mile inland from the shore opposite the ruins of El Balad. Of this town I could obtain no further information than that which I have given,—not even its name, which, if it had been known to any one present, would have been mentioned, for invariably when, from the impaired state of his recollection, the old Shaykh could not immediately recall to his memory any particular name or event, some one among the assembly readily supplied the requisite information.

Of the Min Gooee family Mahomed bin Mahomed Min Gooee was the last who held the Government of Dofar, and at his death he left two children, a son and a daughter, to the former of whom he bequeathed his fortune, and the Government of Dofar, appointing Mahomed bin Mahomed Al Habozi, then his Wazier, to conduct the Government of the district during his son's minority. Al Habozi, however, not contented with the regency, usurped the power that had been entrusted to him, and, proclaiming himself Sultan of Dofar, built the city of El Balad in A. H. 555. After a reign of thirty years he was succeeded by his son, who held the Government for about the same space of time. Subsequently to this, one Shamsadeen came from Sanaa, and took possession of all the coast from Cape Shahrbadaht to Hisn Ghorab, and the last of his line appears to have been Sultan Ibrahim, from whom the kingdom was taken by Sultan Alee bin Omar al Katheeree, a native of Hadramaut, who, bringing half his army (consisting of twenty thousand men) by sea, and the other half by land, disembarked and encamped at Bunder Risoot, in the district of Dofar, whither Sultan Ibrahim, for the purpose of ascertaining the strength of his army, visited his camp in the disguise of a darveish. Intimation of this was however conveyed to the Hadramautic Chief, and when the pretended darveish asked for alms, poison was mixed with the food that was given to him, and having ate of it he immediately expired, leaving Sultan Alee to take possession of his kingdom unopposed, which at that time consisted of all the country on the coast between Cape Shahrbadaht on the east and Hisn Ghorab on the west; and to this the Hadramautic Chief added all that part of the interior which intervened betwixt these two points and Hadramaut.

It is from Sultan Alee bin Omar al Katheeree that the present Shaykh of Dareez derives his descent and title to the Sultanat of Dofar. For many generations it continued uninterruptedly in the hand of his ancestors, the names of all of whom in their order of succession he carefully detailed to us, down to Talib bin Omar, whose government was confined to that part of the coast between Cape Shahrbadaht on the east, and Jadib, a town in the bay of El Kammar, on the west. At his death the right of succession becoming disputed, forty years elapsed during which all the towns were

governed by independent Shaykhs, or Hakeems, until Saiad Mahomed bin Ageyl, of the famous tribe of Ageyl, a pirate in the Red Sea and the Southern coast of Arabia, and no doubt well acquainted with the political state of each district on the coast as well as with the relative value of their produce and their revenues, settled at Silalah in Dofar, and soon gained a supremacy over all the towns between Marbat on the east, and Ras be Hammar on the west, inclusive. For twenty years he successfully kept the government of this district in his own hands, when his career was suddenly terminated by one of the Garrah tribe, who possess the mountainous district behind Dofar. The Bedouin seized the opportunity of assassinating him when at a distance from the towns, in revenge for the death of a relative who had been murdered by one of the Saiad's slaves, and since that time, now fourteen years ago, the principal men of each town have again asserted their former independency, and, as a natural consequence, a jealousy has arisen between the towns, which has ended in a mortal hatred between their respective inhabitants, insomuch that no one now dares go from one town to another without being accompanied by a protector or a guard, while the fertile district of Dofar has become a waste, in which the few who cultivate parts of it close to their several towns are seldom permitted to reap the produce of their own labour.

Of the unfinished state of the Fortifications of El Balad.—The appearance of many parts of the fortifications of El Balad betoken an unfinished state, as if some sudden check had been given to their progress. This is particularly seen in the remains of the foundation of the thick wall which was to have been continued from the south-eastern angle along the southern side of the garrison to the base of the first large tower, which we have seen extended out towards the sea. Here it is evident that the work was never carried beyond its present state, or the wall would have been almost buried in its own ruins now, where, comparatively speaking, a loose stone hardly exists beyond those that mark the contour of the intended fortification, forming a great contrast with the remains of the towers and wall continued on from its western termination, where the original position and form can with difficulty be distinguished from the surrounding mass of ruins, and where, after a short distance, it becomes altogether obscured and buried under them. Moreover, from the eastern termination of that part of the wall which was completed, there are the remains of a thick wall which extended directly across the parallelogram to the *Khor* on the opposite side, about eight hundred yards from the north-western angle, and as the ruins now bear testimony, it was between the wall and the western side that the principal part of the buildings within the fortifications were included. From this it would appear that at first the fortified portion was limited eastwardly by this wall, and that subsequently it was intended that the other portion should be taken in as far as the eastern branch of the *Khor*, but through some interruption the design, though commenced, was never completed, and the foundation of the wall still remains—little altered from what it probably was in the

first instance. Additional evidence of this nature may be drawn from the present state of the quarries in the plain of Dofar, from which the stone for the buildings and fortifications of El Balad was excavated, where rows of large blocks are still left standing, squarely hewn, and detached on every side except their base from the parent rock, ready to be transported to their place of destination, but now left as lasting memorials of the sudden extinction of the power possessed by the civilized people who were about to make use of them.

History of the Inscription.—We were informed by the Shaykh of Dareez that Shumsadeen, who came from Sanaa, had erected seven arches similar to the remains of that one which is now seen among the ruins of El Balad, and that it was no part of the original buildings of that city. Nor does the colour of the stone, or the weather-worn state of it, correspond with that of the pillars and other parts of the ruins of El Balad: it has a more modern appearance. He also added that the only one of the seven he had ever seen was the one in question, and the destruction of this had been effected by a party of Arabs, whom Saiad Mahomed bin Ageyl had employed to remove the great stone containing the inscription to Silalah, in doing which, from want of proper machinery, it had been thrown down and broken, and no longer being fit for the purpose for which the Saiad had designed it, the project was abandoned and the broken stone left at the feet of the pillars which supported it, where it still remains.

Defensible position of El Balad, and the advantage of its situation.—So far as regards a people like the Bedouins or the inhabitants of this coast, the ditch of El Balad, with its walls, all of which might be repaired at a trifling expense from the old materials on the spot, would, and no doubt did, form as secure a position as could be needed. The plain of Dofar behind, the whole of which might be brought into a rich state of cultivation, could be protected to a considerable extent against the plundering incursions of the Bedouins by guns in the fortifications, while the ditch would afford an ample supply of fresh water; and the nearness of the garrison to the sea would enable it to be provisioned at pleasure, especially as the Bunder of Risoot is close by, where a moderate sized vessel may be completely sheltered from the prevailing winds of its coast.

The central position of El Balad on the south-eastern coast of Arabia, the fertility of the district in which it is situated, its position as a port on the coast of that part of Arabia in which the frankincense trees are so abundant, together with many other medicinal gums that might be collected in vast quantities among the mountains of the same district, but which are all now regarded by the inhabitants as useless, from the want of some safe place of exchange or sale for the produce of their labour, as well as the protection of their property;—are all advantages, which, under a good government, might be turned to account, and the walls of El Balad might again shew themselves above the waters in the centre of the district of Dofar, as they formerly did when the Min Gooee family

while an embankment, or kind of rampart, thrown up from the ditch, supplied their place along the northern and eastern sides of the *Khor*.

The rampart or embankment on the north side,—or perhaps breast-work would be the best term for it, as it was never very considerable, —was continued from the north-western to within forty yards of the north-eastern angle of the garrison, where it now turns abruptly towards the south, for a distance of fifty-two yards, and then following its original direction, arrives at the border of the eastern ditch, leaving a square portion at the north-eastern angle, over which the *Khor* occasionally flows during the rains. Although mounds of ruins frequently occur along this embankment, there is not the remotest trace of the original form of the building preserved in any of them. On the eastern side a small round tower, with the remains of a wall and rampart on each side of it, marks the termination of the northern embankment in that thrown up, on the eastern side; and from this tower the eastern embankment was continued on to the south-eastern angle of the fortification, presenting in its course the remains of a landing place, on the border of the ditch, corresponding with one which will be found to have existed in a similar position on the western side.

Having described the embankment which was thrown up on the inner borders of the northern and eastern ditches, we now come to the remains of the wall which defended the southern side of the garrison; and commencing at its eastern extremity, or the south-eastern angle of the fortifications, we shall follow it westward to its termination at the south-western angle.

The remains of a small round tower marks the angle of union, between the eastern embankment and the southern wall, and immediately on the west side of it is the threshold of a narrow doorway, from which the foundation of a wall four and a half feet thick can be distinctly traced on in a straight line for three hundred and nine yards; with thirteen salient mounds in its course, at nearly equal distances from each other, on each of which are the remains of the foundation of a round tower, formed of *concavo-convex* blocks of stone strongly linked together. The remains of this wall, which appears never to have been carried beyond the foundation, terminates at a point where a flanking bastion or tower was run out thirty yards into the beach; and from the base of this, in continuation with the original direction of that from the south-eastern angle, a stronger wall, which, from the parts that remain, and the quantity of ruins round it, had evidently been completed, was continued on for two hundred and fifty-five yards, where a similar bastion to the last mentioned stretches thirty yards out into the beach; and between this and the former one were four other smaller salient towers, equi-distant from each other, projecting two-thirds of their diameter beyond the wall, the whole now enveloped in heaps of ruins. From the last point to the south-western angle, where there is another strong bastion or tower extending outwards towards the sea on a line with the other two mentioned, all is obscured under a confused mass of ruins. The remains of old have become mixed up with those of modern build-

"However this may be, there is field and labourers enough behind; and the Society is now prepared to take immediate charge of six sets of instruments—such as those described in my previous correspondence, so soon as they are sent out, with every hope of carrying out the views of their Lordships, and availing themselves of the liberality and good wishes of the Local Government.

"I have the honor to be, Sir, your obedient servant,

(Signed) "GEORGE BUIST."

The matter must rest here for the present. Of the four tide-gauges originally provided, two still remained: these were at the disposal of Government if required.

They had just been fitted up with wooden cases—all that was required in place of an observatory house and well—to adapt them for some obserations on the tides in wells on the northern shore of Angria's Colabah; which, though perfectly fresh, had a bi-diurnal tide of several feet, obviously dependent on, though not apparently synchronous with, the oceanic tide. This matter was proposed to be examined into immediately.

Observations on the specific gravity of the Mediterranean betwixt Malta and Alexandria, had been forwarded by Captain Gossen, of the Oriental Steam Navigation Company's vessel *Iberia*, in conformity with instructions given by Dr. Buist, and instruments partly provided by him. The tables were very complete so far as they extended.

The following papers &c. were then laid on the table:—

PAPERS.

1. *By Government.*—A descriptive account of the Ruins of El-Balad, by Assistant Surgeon H. J. Carter, of the Hon'ble Company's Surveying Brig *Palinurus*, together with Sketches (six sheets) in Original; with a letter from Lieut.-Col. P. M. Melvill, Secretary to Government, dated the 15th April, No. 502 of 1846.

2. *By Government.*—Extract from a report on the district of Babriawar, by Captain G. LeGrand Jacob, late 1st Assistant to the Political Agent at Rajcote, dated the 15th March 1843; with a letter from J. P. Willoughby, Esq., Chief Secretary to Government, Political Department, dated the 25th April, No. 651 of 1846.

3. *By the Author.*—Desultory observations on the probable Origin of the Ghonds; with four water-coloured sketches, accompanied by a vocabulary of the dialect spoken by the Ghond Tribes upon the Gawil Hills; by Assistant Surgeon W. H. Bradley, 8th Regiment Nizam's Infantry, with a note, dated Ellichpoor, 10th April, 1846.

4. *By the Author.*—Mean Hourly and Daily Curves of the Barometer and Thermometer, taken at Ellichpoor for the year 1845, by Assistant Surgeon W. H. Bradley, 8th Regiment Nizam's Infantry.

5. *By the Author—through Lieut.-Col. P. M. Melvill, Secretary to Government.*—Meteorological Register kept, and Horary Barometrical and Thermometrical Observations taken, at Ellichpoor, for the months of January, February, and March 1846. By W. H. Bradley, Esq., Assistant Surgeon 8th Regiment Nizam's Infantry.

Books.

By the Medical Board, with the sanction of Government.—O'Shaughnessy's (W. B., Esq., M. D., F. R. S., &c.) Bengal Pharmacopœa, and General Conspectus of Medical Plants, arranged according to the Natural and Therapeutical Systems—and Webb's (Allan, Esq., B. M. S.) Pathologia Indica, or the Anatomy of Indian Diseases, Medical and Surgical, based upon morbid specimens, from all parts of India, in the Museum of the Calcutta Medical College; illustrated by detailed cases, with the prescriptions and treatment employed, and comments, physiological, practical, and historical—with a letter dated 6th February, No. 176 of 1846, by the Secretary to the Medical Board.

By Jehangheer Pochajee.—A pamphlet containing Persian Verses in praise of Ardaseer Dhunjeeshaw Bahadoor, together with a Guzerattee version of the same; accompanied by a note, dated the 25th March, 1846.

Letters.

From Captain A. McD. Elder, Acting Secretary to the Military Board, dated 12th February, No. 636 of 1845—Marine Department—intimating, by direction of the Military Board, that Professor Orlebar has already undertaken, and the Board have committed to him, the superintendence (under their control) of the measures now being adopted for prosecuting Tidal and Meteorological Observations; and that that gentleman has already procured the Tide-Gauge and Barometers requisite, and has ordered Thermometers and some other instruments from England; and intimating further, that the necessary forms in which the observations are to be registered, are now being lithographed.

From Lieut.-Col. P. M. Melvill, Secretary to Government, Marine Department, dated 1st April, No. 448 of 1846,—acknowledging the receipt of a letter, and conveying to the Society the thanks of the Hon'ble the Governor in Council for their very interesting communication, and expressing the assurance of Government to afford the scheme of concerted Tidal and Meteorological observations, which has been propounded, the most effectual co-operation in its power.

From Lieut.-Col. P. M. Melvill, Military Department, dated 30th April, 1678 of 1846—forwarding copy of a communication from Professor Orlebar, No. 36, dated the 27th of the preceding month, intimating that the proposition of Dr. Buist, that the duty of conducting the Magnetic or Meteorological Observations, &c., should be carried on simultaneously by himself and that gentleman (Professor Orlebar,) appears to be impracticable.

From Messrs. Remington and Co, dated the 20th February, 1846—inclosing copy of the Account Current with them made up to the 31st July last, and exhibiting on that date a Balance of Rupees (1201: 11: 11) One Thousand Two Hundred and One, eleven annas, and eleven pies, in the Society's favour.

From Lieut. J. G. Forbes, 23rd Regiment N. Light Infantry,—requesting that his name may be withdrawn from the list of the Society's subscribers.

From His Excellency Mons. La Grene, French Embassador to China, dated Bombay, 11th April, 1845—intimating, that he feels very highly honoured by becoming a Member of the Society.

An abstract of the votes for the Office-bearers for next year having been made, the following appeared to have been chosen by a majority of votes on the printed lists:—

VICE-PRESIDENTS.

1. The Hon'ble J. P. Willoughby, Esq.,
2. Major-General Vans Kennedy,
3. Dr. J. Burnes, K. H.

RESIDENT MEMBERS.

1. Dr. J. Bird,
2. Major J. Holland,
3. Captain H. B. Lynch, I. N.,
4. The Hon'ble L. R. Reid, Esq.,
5. J. Bowman, Esq.,
6. Dr. J. McLennan,
7. Dr. C. Morehead,
8. Lieut.-Col. P. M. Melvill,
9. Major-Genl. D. Barr,
10. Lieut. G. Jenkins, I. N.,
11. Lieut.-Col. N. Campbell,
12. C. J. Erskine, Esq.

NON-RESIDENT MEMBERS.

1. Major H. C. Rawlinson,
2. Captain E. P. Del'Hoste,
3. Lieut.-Col. O. Felix,
4. Captain G. Fulljames,
5. Captain Geo. Le Grand Jacob,
6. Lieut J. C. Cruttenden, I. N.,
7. Captain T. G. Carless, I. N.,
8. Captain R. Shortrede.

The following statement of the funds was laid before the meeting.

Annual statement of Receipts and Disbursements of the Bombay Geographical Society, from 1st May 1845, to 30th April 1846.

DISBURSEMENTS.

1846.		Rs.	A.	P.
April 30th,	To Printing,.....	621	0	0
..	.. Establishment,.....	564	0	0
..	.. Contingent expenses,.....	113	9	7
		1,298	9	7
..	.. Balance in favour of the Society, viz.....			
..	.. In the hands of the Treasurers up to this date..			
	Rs..... 2,220 11 11			
..	.. Ditto in the hands of the Secretary 84 12 0			
		2,305	7	11
	Rupees.	3,604	1	6

RECEIPTS.

1846.		Rs.	A.	P.
April 30th,	By balance in the hands of Treasurers this date.....	1,519	1	6
Sept. 10th,	Amount received from Government for supplying 300 printed copies separately stitched of the Report dated 4th October, 1842, drawn up by Capt. G. Le Grand Jacob, late 1st Assistant to the Political Agent in Kattywar, upon the condition of that Province at that period, as per Govt. order dated the 23d August, No. 4068 of 1845.....	150	0	0

Dec. 2nd,	Do. Do. from a Borah for 2 old boxes sold.....	1	8	0
1846.				
April 30th,	Do. of Govt. subscription for 12 months, at 50 Rs. per mensem...	600	0	0
..	. Do. subscription of members for this year..	1,288	0	0
..	.. Do. of printed copies of this Society's Proceedings sold....	3	8	0
..	.. Do. of copies of Royal Geographical Society's Journals sold.	42	0	0
	Rupees	3,604	1	6

(Signed) GEO. BUIST, Secy. to the Society.
Bombay, 30th April, 1846.

The meeting then adjourned till the 1st Thursday of August next.

THE Ordinary Quarterly Meeting of the Society took place in their Rooms, Town Hall, on Thursday the 6th August, 1846, at 3 o'clock P. M.

PRESENT.

Captain D. Ross, I. N., F. R. S., President, in the chair.—Major J. Holland; R. W. Crawford, Esq.; S. S. Dickinson, Esq.; Captain Sir R. Oliver, Kt., R. N.; Manockjee Cursetjee, Esq.; and Captain H. B. Lynch, I. N., Acting Secretary, Dr. Buist being absent from sickness.

The minutes of the last anniversary meeting held on the 7th May last were read and approved.

The following Papers, Books, Maps, Letters, &c., were laid before the meeting.

PAPERS.

By the Author.—Memorandum on the City of Shikarpore, in Upper Scinde, by Captain T. Postans, 15th Regiment N.I., with a letter dated Bombay, 18th May, 1846.

By the Author.—Incomplete notes on a Shipwreck on the Southern Coast of Arabia on the night of the 14th January 1835, by Dr. B. A. R. Nicholson, with a note dated Byculla, 23rd May, 1845.

By the Author.—Barometrical and Thermometrical observations taken, and Meteorological Register kept, at Ellichpoor, for the month of June 1846, by Assistant Surgeon W. H. Bradley, 8th Regiment Nizam's Infantry, with a letter dated Jaulnah, 22nd July, 1846.

BOOKS.

By Government.—Printed copy of the Report by the Superintendent of Roads and Tanks for 1844-45, with a letter from Mr. Secretary Escombe, General Department, dated 13th July, No. 2,309 of 1846.

By the Societe Ethnologique de Paris, through Captain Ager.—Memoires de la Societe Ethnologique, Tome 1st of 1841, and Tome 2nd of 1845, and 2 copies of the Instruction Generale addressee aux voyageurs, &c., with a letter dated Paris, 2nd August, 1845, from the Secretary of the Societe Ethnologique de Paris, addressed to the President of this Society.

By the Author, through the Societe Ethnologique de Paris.—Memoires sur les progres des Decouvertes Geographique dans l'Ile de Madagascar; and Analyse d'un Memoire de M. Eugene de Froberville, sur les Langues et les races de l'Afrique Orientale au sud d l'equateur in Avril 1846, with a letter from the Author, dated Port Louis, Isle Maurice, 24th June, 1846, addressed to the President of this Society.

Maps.

By Captain H. J. Barr.—Carte d' Acir et d'une partie de l'Hedjaz et du Nedjd dressee en Arabic d'apres les Notes prises de 1833 a 1840.—Par M. Chedasan, Medecin Inspecteur des Armees d'Arabie, 1840.

By the Author.—The tract of a Route from the mouth of the Indus to Gharra Bunder, navigable throughout the year for the River Steamers—with a letter from W. Fenner, Esq., Acting Master, I.N., dated Hydrabad, 17th July, 1846.

Letters.

From Captain G. LeG. Jacob, dated Sawunt Warree, 3rd June, 1846, intimating his having transmitted the amount of his subscription to the Society for 1846-47, and expressing his regret that his time is so intensely occupied with official duties as to prevent his at present becoming an efficient member of the Committee—and he at the same time states that "nearly the whole frontier line of this (the Sawunt Warree) state, with Goa, is incorrectly drawn in our common Maps," and in consequence, forwards a rude outline as a specimen, with a view to the Society's Map being corrected thereby.

From Lieut.-Col. P. M. Melvill, Secretary Marine Department, dated 13th June, No. 866 of 1846, intimating the opinion of Government that Perim Island is very desirably situated as a station for tidal observations, but, from accounts received, considers that no European could live upon it.

Government suggest that, before any thing is done for establishing an observatory on the Island, it should be ascertained whether any person is willing to undertake the observations.

Colonel Melvill further intimates that it is considered that Suma Cassim, the individual in charge of the Perim Light House, who is an intelligent man, might easily be instructed how to make the required observations.

From the Reverend G. Morrison, acting Secretary of the Surat Library, dated the 19th June, 1846, returning the thanks of the Proprietors of that Institution for the copy of the Society's Transactions presented to it.

From A. Malet, Esq., Secretary to Government, Political Department, dated 1st August, No. 3,003 of 1846, acknowledging the Receipt of the 300 printed copies of an Extract from a Report on the District of Babriawar, by Captain Geo. LeGrand Jacob, late 1st Assistant to the Political Agent in Kattiawar, and intimating that the General Pay Master has been authorised to pay to the Secretary of the Society the sum of Rs. 200 on account of the printing expenses of the pamphlet in question.

Lieut. James Felix Jones, I. N.—proposed by Captain Sir R. Oliver, Kt., R. N., and seconded by Captain H. B. Lynch, I. N., was unanimously elected a member of the Society. The Meeting then adjourned till the 1st Thursday of November next.

The Meeting of the Society of the 5th November 1846 was postponed till Thursday the 4th February 1847, in consequence of there being only one Member, Ali Mahomed Khan, Esq., present.

TRANSACTIONS

OF THE

BOMBAY GEOGRAPHICAL SOCIETY.

Extract from a Report on the District of Babriawar, by Captain G. LeGrand Jacob, late 1st Assistant to the Political Agent at Rajcote —dated the 15th March, 1843.

[Presented by Government.]

Past and present state of the Province of Babriawar.

History of the Province of Babriawar.—The history of this District is obscure, and little further light can be thrown on it than will be found in the 13th para. of my General Report on the Peninsula, dated 4th October last, sub. para. VII.

Origin of the Tribes now inhabiting Babriawar.—The Kattees, who trace themselves to the banks of the Jumna, and were borne down by the tide of immigration to Kutch, were again carried onwards to the Soorashtra Peninsula, about the end of the 14th century, at which period the Babrias were by local tradition settled in the neighbourhood of Than:* whence they previously came, is more doubtful. The Koteelas trace themselves to the union of an Aheer female with a Brahmun of Seehoor. The Dhankras to the Pandwas of Hustnapoor, and the first step known in their migratory career was Puttun (Anhalwara.) The Wurroos claim union with the Poorbundur family by a Dhankra woman. The Aheers, who possess several villages in Babriawar, carry up their lineage to the Somrahs of Sind, and by subsequent intermarriage to the Solunkees of Diu, and even to the Oojen family. The establishment of the Babrias in the district bearing their name, must have occurred shortly after they were driven from Than by the Kattees. The Aheers would seem to have preceded them by some centuries, and to have been the stock into which the others engrafted themselves.

Previous occupants of the soil.—The prior possessors of the district are believed to have been the Solunkees and the Walas, whose name is still traced in the adjoining division of Walack. The Wajas occupied the W. border. I annex (Enclosure I.) the information obtained from the people themselves as to their origin and history. The district is void of inscriptions by which to test their tradition, and of any edifice denoting antiquity.

* They were previously dispossessed of Sovereignty over it, if not partially driven Southward, by the Jhalas.

Character and Habits of the Babrias and Aheers.—The Babrias are more haughty and warlike than the Aheers: these are a peaceable community, ploughing their own lands, and in appearance little above the common agricultural labourer, whilst the Babrias affect more the state of the respectable Kattee. They intermarry with each other, but with the usual Oriental distinction of rank, the Aheers give their daughters to the Babrias and the Babrias their's to the Kattees, the order being only reversed in case of the wealth of the inferior and poverty of the superior grade. Polygamy is common, with no other restrictions than means and inclination: the husband gives the dowry to the parents of the betrothed, who regard it very much in the light of purchase money. Equal division of property is slowly producing the same effect in this quarter as has been shewn to be in operation with the Kattee and minor Rajpoot states. The Babrias have been loosely termed Kattees; but their stock is different, and they have no title to the name. Possessing a very limitted patrimony in a secluded corner of the Peninsula, cut off from direct intercourse with the main body of the community by the Geer, they have come less in contact with the British power than the other races of the country, and retain more of their pristine barbarism: they cherish their blood-feuds with more inveteracy than even the Kattees: their villages are mere collections of mud huts, with generally a low wall of circumvallation, and a ghurrie, for defence.

Religion.—In matters of faith, the Babrias and Aheers are but sorry Hindoos. Their chief Deity is a stone called Shamjee Maharaj, at the hot springs of Toolsee Sham, just beyond the North West limit of their frontier. This is an idol with four arms, supposed by some to represent Vishnoo, though of this the Babrias know nothing. They hold in respect also certain Devees (Goddesses, named Ghatrar, Khoriar, Chawund, and Boot Bhowanee): they are unburdened with ceremonies, and have no restriction in matters of food, save in the article of beef. The followers of Swamee Narain, whose system has penetrated into the remote corners of Guzerat, abstain from all animal food, in common with other followers of the Punt.*

Boundaries and Surface of the Country.—Population.—The boundaries of Babriawar are the Geer hills on the north, the Jolapooree river on the east, the Malun river on the west, and the Sea on the south, as more fully detailed in my general report and map. This district contains seventy-one towns and villages, with a population of about 19,000; some villages belonging to the Rajoola and Ghanla tuppas on the east, under Bhaonuggur; Khuntalla and others on the north, that have become attached to the Amrellee tuppa of Dhanturwa, and those on the east bank of the Malun annexed to the Oona Muhal, which, though originally Babria villages, have been enumerated under their respective states, are exclusive of this calculation. The Jaffrabad Purgunnah of eleven villages, with a population of about 6,000, is included, except where it

* Sect. There are in the Peninsula about 30,000 followers of this Hindoo Reformer, of whom a discription is given in Bishop Heber's Journal, but his character is not held in repute by the rest of the community.

skirts the Geer. The surface of Babriawar is generally level, and contains but few trees.

Agricultural Facilities and Products.—The soil is good, the poverty and indolence of the people alone preventing their turning it to proper account: though water is found at a short distance from the surface, they trust almost entirely to the monsoon, and but few wells have been dug for irrigation. Bajree and til are the staple grains; wheat is raised occasionally in warrees at Nagsree, Meethapoor, Dhoodala, and Chotree; and not more than a hundred maunds of cotton are grown in the whole district. Cattle abound, the neighbourhood of the Geer affording ample pasturage; and the export of ghee, through the port of Jaffrabad, is very considerable.

Extent of a Santee and Weega of land, and the amount of Produce thereof.—The santee of land is here of sixty weegas, the weega being 160 yards by ten: a three bullock santee is termed pucka, and consists of ninety weegas. Fifteen khalsees of bajree and ten of til are the average quantity per santee. The khalsee is of fourteen Goozeerat maunds, and the average amount realized is nine rupees per khalsee of bajree, and fifteen rupees for til.—A table shewing the financial result to the landholder is annexed. (Enclosure II.)

Enclosure No. I. to Report dated 15th March, 1843.

The Koteelas.—Account of the Koteela Tribe of Babrias, translated and condensed from the books of Rawul Bhoga Jugjaun, the Genealogist of the Tribe.

The Koteelas.—The Koteelas sprang from the Janee Brahmuns of Seehor. A list is given in the original of several names said to have reigned there for 225 years. Trikum the last ruler, built the Soorujkoond (tank of the sun) at that place. On being driven from Seehor, he seated himself one day in the skirts of Tullaja, to prepare his food: the daughter of an Aheer of that place, named Dewa Dorela, and her sister-in-law, were passing to fetch water from the well, and saw the stranger attempting, but not knowing how, to cook his meal. The maiden said—this handsome Brahmun seems in distress: the sister replied jestingly, you are a Virgin, do you cook it for him: the other answered, I must do as you bid, seeing that you are my eldest brother's wife, and in the place to me of a mother. On this, filling her pitcher at the well she passed the Brahmun, and said to him, I am your wife, and you are my lord, but he answered not: the virgin, named Shreebaee, then said, if you say no, I destroy myself. The Brahmun then consented. At that time Ebulsoor-walla gave dowers to aid the marriage of one crore of virgins: to him the parties went, and the Chief recognizing Trikum as one of a high race, placed the *Teela* first on his forehead, whence has sprung the name of Koteela, and from this union the tribe. Treekum's eldest son was named Koteela, the second Bhookun in Kattywar, the third Pholo in Gogo Bara. Koteela married into the Babrias, the others remained Aheers. From Juweraj, the third in descent from Koteela, in the course of thirty-six generations eighteen tribes have emanated. The chief was Rana, and his descendants were in

the following order:—Putpat, Kottela, Juweraj, Kala, Sakria, Weeka, Seea, Kala, Juweraj who had four sons viz., Jor, Tola, Sajun, and Sakria: these four were the nephews of Bussia by their mother Sona; they settled at Thankundola, and were named the Thakors of seventy-two tribes. The fourth son Sakria had issue in successive generations as follows: Kala, Jor, Sajun, Selar, Shahpooree, Sathee, Somesuir, Leeka, Moonga, Dhurja, and Bhola.

The Dhankras.—Account of the Dhankra Tribe of Babrias, extracted and condensed from the books of Rawuls Nugajun and Bhoja of Dedan.

The Dhankras.—Dhankra is a Babria descended from the Panduws of Hustnapoor: they dwelled in Patun, whence they came to Jhan Kundola, in the Punchal district, where they resided. Afterwards they migrated to Urneeroo. The genealogy is as follows:—Brumha Shoob, Sabud, Droobud, Tarabad, Amreek, Ukheprut, Sayetun, Pundoo, Pund, whose five sons were Joodishthut, Nukool, Urjoon, Suhdew, and Bheem: these were the nephews of Jaduw, born of Mata Koontee. Bheem's issue was Gutoorguch, born of Hurumba, nephew of Raksush, son of Truelochun's daughter. Gutoorguch's son was Babruk, and his Babria, his was Soom, and his Samla, his Dhandh, his three sons the first Dhankra, the second Khora, the third Dangur: these two were Kattees, and nephews by their mother Magul of Wala. Dhanka's son was Dhank, whose issue were Peegul and Chandoo. The second had issue, Khunsee, whose generation was as follows:—Howl, Kala, Cholrup, Mokul, Shetrum, Humva, Raden, Dewed, nephew by the mother's side of Koteela. Dewra's genealogy was Setrun, Seea, Sajun, and Seea.

The Wuroos.—Account of the Wuroo Tribe of Babrias, extracted and condensed from the books of Rawul Weera, the Genealogist of the tribe.

In the beginning, Mahadeo asked of Krishna to appear unto him in the attractive female form which he had formerly assumed: Krishna consented. From Mahadeo then issued the Virile power.* Goruknauth sprung from the cow-dung (gor) which Krishna had touched, and the Jalundur Duet from the water (jul) in which he had dipped his hand. Gaotun Rooshee had given an imprecation against his daughter Unjnee, that she should become pregnant as a Virgin; she therefore buried herself up to her neck in the ground, and thus remained in the wilderness. By this spot passed Mahadeo and Krishna, to whom she bent her head in adoration. Krishna did not acknowledge the salute, saying, thou hast no guide over thee: she replied, be thou my guide. Krishna then blew into her ear the virile power that he had received from Mahadeo, by which she conceived, and brought forth Hunooman, of whom was born Mukurdhwug. When Ram conquered Lunka, Hunnooman was covered with perspiration in lifting the Droonagur hill, and which dropped from his body into the sea: a fish swallowed it, and gave birth subsequently to Mukurdhwug: his genealogy was Dhwuj Dhwujangee, Dhwuj Weraya, Mor, Dhwuj, who founded Moorvee, and

* The original is too gross to be translated.

established his reign there. From him sprung in succession as follows: Kumdhwug Mucka Soorun, Kunksasoor, Kusyup, Kupeel, Jan Amreek Ukhewurt, Manwusunt, Chukreen, Sayutun, Taljun, Mucka Soorun, Mehe Muggur, Dhwuj, Dhwuj Jethee Dhwuj, Jetwa, Wukeed Meh, Jetroo Magronagajun, who built the Dhank fort of gold and sacrificed his head to his Bhat in the following manner: Sidnath Bama, disciple of Dhondhlee Mul, worshipped his master, who said, I will cause the fort of Dhank to resemble that of Lunka: the disciple replied, the fort of Lunka is of gold. The holy man replied, I will turn the Dhank citadel into gold: then by the power of his science he conveyed the wife of Salwan Gohel from Moongeepoor Patun, and stroked the walls with her hand, which transformed them into gold. On Salwan Gohel finding out what had passed, he brought an army against Dhank, but could not take it. He then asked Putla Bhat to go to his enemy, and beg his head: the Bhat went accordingly, and securing a pledge of Nagjun, demanded his head: the which he accordingly surrendered to him. Nagjun's race is as follows:—Wueddhwuj, Wukeeo, Muheeo, Mehe, Gujkurun, Halamun, Jetwo, whose issue rules in Porebundur. Halamun's sons were Meh and Wukeeo. Meh was united (wurryo) to Mal, the daughter of Rakait Dhankra—hence the Wurreeo tribe. The issue of this union was successively Bhano, Bharmul, Bhoojsee, Mehe, Bakhul, Mehe, Wankra, and Wank, from whom came the Kattees. Poput, of whom sprung the Aheers, and Wurroo, from whom came the Babrias.—Wurroo's issue was successively Dhurm, Golun, Waseeo, Walo, Goghoo, Tajo, Wurroo, Dhayo, Panthe, Soortho, who married into the Muchwa Aheers—his race live at Murmut, at Mandwa, and at Kotra on the banks of the Bhadur: his issue was Waseeo, Waon, Wolo, Golun, Santurkhee, Soya, Kurno, and Sadool, whose sons, Khoro and Mukko, received Nagusree and Kysana. The issue of the third son, Duyo, will be found in the Arodro Book.

The Aheers.—Account of the Aheer Tribe, extracted from the Book of Rawul Jussa Sojana and his Son Bhugwan Jussa Rawul Wago Ramaya, corroborating the same.

In the country of Sind was a king named Somra, who had five sons: the 1st Wag, the 2nd Kamlio, the 3rd Kattear, the 4th Murmul, the 5th Arodro, who settled in the Burda Country.—Wag's race was as follows: Palun, Jaetho, Wasa, to whom were three sons, Jusso, Lakho, and Duyo. Jusso's generation was thus: Aso, Sahir, Satho Wero, who received his grass in Nesraphulee in the Rampurra district. Latho's 2nd son Ruyo received half of Rampurra, and his 3rd son Khoko had three sons: the eldest Moojo, received Jampodun in grass, and hence the Jampodda tribe; his second, Wago, received Jolapoor, hence the Jolapurree tribe; his 3rd son, Rano, had also his grass in Jolapoor, and his issue mingled with the others: the 4th son was Rakho, the 5th Kaloo. Rakho received Ganjawudder, and Sajunwao, which last is under Bhaonuggur; Kalo received Veejooka, which is the same as Deoka, now under Rajoola. The Lakhnotra, and Ram tribes, descended from the Solunkee Rajpoots.—Urjup Solunkee reign-

ed over Deo (Diu.) Rooshro was his son by another caste: he had two sons; the eldest was Lakhnotra, who married into the Soruthia Aheers, and his descendants are termed Lakhontra; the 2nd son Jonto married into the Nepal Aheers. Lakhnotra's son Seehuro had three sons. Desoor received Kowaya, Jhalo received Mugalo, and Danturee the 3rd Khooat received Oontinwuddur and Turyam, which last is now under Oona.

The Wala Rajpoots held sovereignty of yore, from whom sprung Walojee, who had five sons: the 1st, Pinjur, who married into the Aheers, hence the Pinjoor tribe. They received Hurmutyoo Malunia-wuddur and Koombharioo, now under Bhownuggur. The 2d, Walojee, of this race had four sons, the eldest Waghosee, from whom the Wunar tribe descend; the 2nd Wawrio, whence the Wawrias; the 3rd Kinkur, from whom came the Kinkras; the 4th Chowur, whose descendants are called Chowur Wunar: their grass was originally in Bugusra, afterwards in Rajpura in the Bhownuggur country, subsequently in Dewkawuddur and Entis. The Putal tribe sprung from the king of Oojen, Vikum Purmar, by a woman of other caste: the issue was Purmar, Dharwo and his Putal, who married into the Aheers, whence the name of the tribe. The Wala Rajpoots were formerly the landholders: many of the Aheers came and took up their residence with them, and on the Walas gradually dwindling away the Aheers fell into possession of their grass.

The Babrias.—Account of the Babrias, as given me by Ala Wurroo of Sakria, and Sangana Bhojkoteela of Wankiod, and others—Timbee, 9th May, 1842.

The Koteelas are considered the highest caste in this part: they are descended from a Brahmun of Seehor, but they are the fewest in number. The Babrias are believed to have come from Than, from whom it was taken by the Jhalas. They migrated to Bugusra, Amrelee, and Koondla, whence they were driven by the Kattees. They then came to this quarter, which was in the hand of the Wala Rajpoots, the same caste as those now in Dhank, from which family the Wala Kattees are derived through Wallogee, who on his way to the Ganges stopped one might at Bhayasur, and slept with a Kakee female. The Babrias at first remained as the Ryots of the Walas, but after a few years they drove these out, and kept possession of the villages in which they had settled. All the seventy-two tribes come from Than. One cause assigned for their leaving this place, is the fear of the Padishah's enmity for having given shelter to two Grassias' daughters, one of them named Bhawunabaee, whom his army wished to seize for him. The Babrias were aided in establishing themselves in Babriawar by Ebhulwala of Jetpoor, then a Rajpoot Gadee. He was the father of the famous Champrajwala, who opposed Feeroz Shah's Army, and was killed by his General Izeo Deen, who erected the great Mosque at Mangrol. A gate at Jetpoor is still named after the same Champrajwala to this day; but the Walas, whose grass extended to Jhaujmer on the east, and Dhank on

the west, now only retain Dhank. Ebhulwalla gave marriage portions to ten million virgins : one of those was an Aheer's daughter who fell in love with a Brahmun, named Trikum, who had fled from Seehor, having killed his brother there. Ebhulwalla was then performing *Jogan*, i. e. portioning off in marriage the virgins of his country, and hearing of an Aheer's daughter being about to destroy herself from unrequited love, Ebhulwalla persuaded the Brahmun to marry her, promising that his offspring should be included with the Babrias, and at their head. The name Koteela was given them from teela, the Brahminical forehead mark. Another reason assigned for the name is the Brahmun and Aheer's daughter having claimed the protection of Ebhulwalla, who replied," umarekot manehe," it is upon my neck : consequently they were called Koteelas. The Dhankra Tribe sprung from Panduws. They were at first the chief tribe, though now held inferior to the Koteelas. They are the most numerous of the Babrias, and next to them in number are the Wuroos. The Wuroos spring from the union of a Jetwa Rajpoot with a Dhankra Babria's daughter, when the former reigned at Bhoomlee (or Goomlee.) Wuroos are still called Jetwas among themselves. My informant Bhoj lost his grandfather Bhoj and uncle Jhalo Koteela, with forty-five other Babrias, and eighteen Bhawurs killed at Kulagud, at the storm and capture of the place in S. 1844 by the Nawab's army under command of his Deewan Prubhasunkur. Their pallias are now at the village of Waud, which has fallen under Jaffrabad, but of which their race are still grassias. When this branch of the Koteela race lost its strength by the power of the Nawab, the Dewan family began to raise itself on its ruins, taking from it the villages of Sur, Goria, and Trakooroo. The Aheers came from the Bunee district in Kutch, where their tribe still exists, and entered Babriawar from the Muchor Kanta by land—and from Deo (Diu) by sea.

The Babrias.—Account given of the Babrias by Jeema Bharot of Morvee, but having grass under Joonaghur, Genealogist of the Nuwab.

The Toour Rajpoot tribe reigned at Delhi for five generations, and being driven thence about the time of the Panduws, Mantal Toour came to Than Kundola, and there reigned. He supported all the people who flocked thither. In consequence of a great famine, the men quitted in search of other homes or occupation, leaving their wives and children at Than : these were of divers castes, and were hence called Bahur or Buhur, which in the local dialect signifies numerous—mixed. They afterwards left and established themselves in the south of the Peninsula, hence called Babriawar. Afterwards Manpul Toour himself took refuge in Babriawar, where his race still exists, and are looked on with respect, intermarrying with the other Rajpoot tribes of the Peninsula. There is one house at Rajoola, Dosajee Toour ; one in Kantur, Manjee Toour ; one in Meetapoor, Panchanjee Toour ; and in a few other places : they have no grass possessions, but receive fees from the Babrias on marriages and other festivals. This race is now named Thakra. The Brahmuns of Seehor, whence the Koteelas are derived, received their

grass in that place, from Sudrae Jysing, the Salunkee Chief of Anhulwara.

The Khant Gohels.—Account of the Khant Gohels on the western borders of Babriawar, and in Naghur, given me by Jussa Gohel of Timbee, and others.

This tribe call themselves Gohels, but they spring from the union of a Khant woman about fifteen generations back, with one of the Palitana family. Raja Gohel, six generations ago conquered seventy villages in this quarter from the Waja Rajpoots : the following remain to them, but now fallen under the Nawab :—

1 Timbee.	7 Samtej.	13 Kandee.
2 Mhota.	8 Wawurdo.	14 Pura.
3 Sunkra.	9 Bhasa.	15 Dhokurwa.
4 Gangra.	10 Oogla.	16 Aleedar under Koreenar.
5 Punehwala.	11 Umbaru.	
6 Oout walo.	12 Wajree.	

These Khant Gohel Khants intermarry with the Khussias, the Mhers, the Mukwanas, and the Khants. The Wajas now retain grass in Roheesa, Simbar, and Gular : these intermarry with the Bhaonuggur, Palitana, Sathee Bhayad, and other Rajpoots.

List of the different Tribes of Babrias, commonly called Babria Kattees.

No.	Titles.	No.	Titles.
1	Koteela	37	Dugao ... ...
	Dhankra		Labhia ... ...
	Wuroo		Khata ... ...
	Ghurga	40	Khasur ... ...
5	Ghoosanba		Khodiala ... ...
	Chamya		Kandhul ... ...
	Boreecha		Nepul ... ...
	Chubhar		Keelkan ... ...
	Chatroja	45	Kateeal ... ...
10	Kareta		Wagla ... ...
	Murmul		Werma ... ...
	Wura		Dangur ... ...
	Wusra		Chondia ... ...
	Luya	50	Khara ... ...
15	Lobud		Khulala ... ...
	Kurena		Khuda ... ...
	Kundhmul		Bholuvla ... ...
	Shankhlia		Weda Bhoopal ... ...
	Suchla	55	Shanja ... ...
20	Bhoowa		Nerala ... ...
	Bharmul		Sujora ... ...
	Bhalera		Shoba ... ...
	Dhurmueta		Kagru ... ...
	Soonwura	60	Mutara ... ...
25	Beparia		Sheeala ... ...
	Kheradot		Kesoor ... ...
	Burela		Dedugra ... ...
	Pooshutia		Shubur ... ...
	Pudeeara	65	Athur ... ...
30	Changur		Veea ... ...
	Chuk		Keea ... ...
	Rakhur		Khaghurda ... ...
	Rathor		Nuvga ... ...
	Naeesa	70	Ladha ... ...
35	Sheenug	71	Dhaudha ... ...
36	Dubhia	72	Oomga ... ...

(Signed) G. Le G. Jacob, 1*st Assistant.*

Enclosure No. II. to Report dated 15th March 1843.

Table shewing the value of one Santee of land under Bajree cultivation.

Average produce after paying the reapers in kind	Rs.	15
Kalsees at something above 9 Rupees per Kalsee	Rs.	137
Expences.		
A 5th share to the Bhagia or household cultivator, thus—		
Paid and Termed	Rs. 27	
Seed	2	
Labour, exclusive of that in reaping	10	
Wuswaya Khumal, viz.		
Sotar, Lohar, Koombar, Hujjam, Durzee, Gamat, Rajghar, and Dhor	13	
		52
Net produce to landholder		85
Value of a Santee of land under Til cultivation.		
Average produce 10 Kalsees, or Rupees		150
N. B. No Wuswaya Kumal is charged on Til.		
Bhagia a 5th Share	Rs. 30	
Mundanun preparing and cleaning the ground	15	
Seed	3	
Reaping	10	
Labor and extra expences attending Til Harvest	4	
		62
Net produce to landholder	Rs.	88

(Signed) G. Le G. Jacob, *1st Assistant.*
(True Extract) J. P. Willoughby, *Chief Secretary.*

Desultory Observations on the probable Origin of the Ghonds, with a Vocabulary of the Dialect spoken by the Ghond Tribes upon the Gawil Hills. By Assistant Surgeon W. H. Bradley, 8th Regt. Nizam's Infantry, at Ellichpore.

[Communicated by the Author.]

The following conjectural remarks upon the descent of the Ghonds, are offered with the hope of drawing attention to the subject, having no merit beyond this to recommend them. The knowledge we possess is by no means very familiar or extended, relating to the obscure tribes found scattered up and down the Continent of India, more especially those isolated communities inhabiting its Mountain Ranges,—a circumstance to be accounted for with the latter races as much from their barbarous habits as in the difficulties their country offers to a freer communication.

The principal facts known about the Ghonds are but very limited, a few of which have already been recapitulated in a former communication. Feeling deeply interested in these inoffensive beings, some pains have been taken to collect a tolerably copious Vocabulary of their Dialect,—at least such as is spoken on the Gawil Hills; which before submitting will be prefaced by some slight references to certain leading features of the race, physical and moral.

In hazarding a Scythian descent for these rude Mountaineers, we shall find, as we proceed in the course of the investigation, so many corroboratory proofs of this assertion, that, though it may be not allowed, still the grounds on which they have been made will at all events, from their plausibility, show they have not heedlessly been advanced. No facts stronger in confirmation can be adduced, or probably so conclusive in their nature, as those relating to their physical peculiarities ; the analogies drawing very closely with those distinctively characteristic of the Mongolian race. In them we see a square broad-faced skull, with low and narrow forehead ; the hair black, lank, coarse and thin, sometimes altogether awanting on the lip and chin : the face broad and flat, with high cheek bones, wide mouth, and thick lips : the alæ of the nose enlarged and flattened : skin swarthy and coarse : features harsh and forbidding : with a frame of body strongly knit, and stature rather under than over the medium height. This is an organization with which the effeminate southern Asiatic has no participation. Placed between the natives of the Deccan, and of Hindoostan Proper, we shall perceive the Ghond's condition to be as little analogous to theirs in a moral point of view as we have witnessed the case in a physical one : so great, indeed, are these discrepancies, that it is quite evident we have to look further a-field for their primogeniture. Even with the Bheels, a neighbouring hill tribe as rude, and even more barbarous, than themselves, between whom we might naturally conceive the possibility of something like identity existing, we look in vain for any such results ; the only similitude traced consisting in one common state of barbarism. Though uncouth and rugged in his nature, the Ghond yet possesses kindly feelings, and if he has not many virtues, he has at the same time not many vices : his great besetting one is a brutal indulgence in drinking, which is carried to excess, but save this single failing, the blandishments of sense seem little to affect his rough nature. Such was the kind of stuff those men were made of who, streaming from the summits of the Caucasus as from a centre, mysteriously overspread the universe in process of time.

The tract of country the Ghonds inhabit, is very extensive, and of the wildest nature ; spread over by the deepest forests and ranges of rugged and broken mountains. From these arise the head-waters of many vast-sized rivers, whose thousand rills come tumbling down into the valleys, producing there the rankest vegetation. Were the industry of Man here exercised in turning the natural advantages to account, Ghondwana might teem with Nature's richest products. Pastoral pursuits occupy the attention of many ; not a few cultivate the various fertile strips of land occurring along the valleys, reclaimed from the wild jungle or cleared on the hill side ; whilst a remnant, and not a small one either, are found still retaining their old erratic habits, with much of their attending ferocity. These are principally of a tribe called " Nals," or shepherds, whose thievish and violent habits have brought the whole race into an universal and undeserved disrepute. Possessing no very defined notions of the

rights of property, they are shunned and despised by their own people, and placed by them lowest in the scale of social life, as they concede the highest grade to the "Korkoo," or cultivator; a pleasing proof of an approach towards humanization in so rude a race, where we find pruning hooks and ploughshares usurping the place of swords and spears. None but the Nal goes armed, and then carries nothing but the bow and arrow. All, however, are provided with a small hatchet, serving not only for defence but for employment in domestic purposes as well.

Of their early history, they themselves know nothing; nor are they in the remotest degree acquainted with any event relative to their original occupation of the land. Tradition observes a provoking silence, rendered more so by the absence of a written language: all is therefore left to conjecture and vague surmise, but it is not difficult to conceive what the upshot would be in a case like this, where wandering habits are associated with warlike propensities. Wherever depasturage was found compatible with their wants, there in all probability they would tarry, supposing they were sufficiently powerful to carry out their wishes. The circumstances of their no longer seeming to be a military people, are more apparent than real, for we cannot suppose them holding undisturbed for ages their acquired boundaries, without possessing the power to maintain what they had gained. It is indeed far from being improbable that they are the descendants of those warlike people, immortalized by Hindoo Poets as the Monkey Hosts who, under Hanuman, overthrew the King of Ceylon, and gave rise to those extravagant fables recorded in the Ramayana: for in sober reality Rama was but mortal like ourselves, and son of a King of Oude. Banished from his father's court, he turned ascetic, and dwelt amongst the forests upon the Godavery. His wife Sita having been forcibly abducted by the King of Ceylon, for the purpose of recovering her he seeks the aid of the King of Karnata, who sends an army of his subjects to his assistance, led by the redoubtable General Hanuman, who regains her, and destroys the ravisher. The uncouth manners, and mountain habits, combined with most unprepossessing features, give these mountaineers some pretensions to a Sirnian character in the eyes of their more refined neighbours; and what was probably first applied in bantering derision, has, with a wonder-loving people, now become serious matter of belief. Hanuman is a favorite shrine throughout the Mahratta country, particularly in those villages bordering the country of these mountain tribes.

Reverting to that restless disposition so particularly apparent in the Nals, but existing more or less in all, we may note in it one of many other connecting links to those nomadic tribes we conceive they sprung from, and which is now, as it ever has been, the cause of retaining them in their brutal and uninformed condition, whilst all around has progressed in civilization. No matter how hard gripped they be by want and hunger, they hang back from seeking any service which would impose a check upon their personal freedom: if by

accident they get coaxed into the fact, they seek the first available opportunity of regaining their wild mountain sides, as impatiently indeed as caged birds take wing who had forced their wires. The Ghond must not be judged of by his outward looks. They are but sorry enough; but question him quietly, and you will feel astonished at the haughty notions you hear the miserable being before you holding of himself. He conceives his race were formerly the original masters of the land, and this vain notion is the only approach to anything traditional about himself which he possesses. At this present day, tribes very much the same as these are seen roaming over the wide Steppes of Tartary; and the general identities between the two are far too remarkable to be looked upon merely as strange coincidences. To read the account that travellers give of these nomadic tribes, would make persons at all acquainted with the Ghond character conceive it had been written expressly of them. Bell, in his travels—given in Pinkerton's collection—describes some wandering hordes he fell in with upon the confines of Siberia, as being perfectly distinct from the natives of the place, possessing the Tartar countenance, barbarous in manners yet not savage. Inoffensive, civil, tractable, honest, and not wanting, in courage,—ardently attached to liberty, and spurning controul,—greatly given to intoxication,—their greatest failing perfect ignorance of literature; in matters of religion having obscure notions of the Deity, worshipping the sun and moon, and believing firmly in sorcery or Shamanism. Now there is nothing here set forth but might *mutatis mutandis* be applied with equal force and truth to the Ghond's condition. That very remarkable and revolting charge of being Anthropophagons, which the ancient Scythians have had laid to them, is brought against a portion of these people also. Its uncommon and singular nature makes the instance a valuable one for our purpose, for it would seem that this horrid rite is confined only to one of the three Great Families of the World, of which these people are supposed to form an integrant portion. The old traveller Rubruguis, who was sent by St. Louis to the Cham of Tartary, tell us in the account he gives of his mission, that "the people of Thibet had formerly a custom to eat the bodies of their deceased parents, that they might make no other sepulchre for them than their own bowels, but of late they have left off this custom, because thereby they became odious to all other nations." The Ghonds upon the Gawil Hills deny the existence of the rite amongst their tribes, and they and others of their race who have intercourse with the civilized world, would have very likely allowed such a practice to have fallen into disuetude from the reasons the Friar gives as advanced by the Thibetians: but the case would be different with those wilder tribes cut off from all connection with their fellow men, surrounded as they are by their deep forests, and deeper prejudices, and it is by no means unreasonable to suppose that they would still retain their ancient customs, and it is in those savage regions about the sources of the Nerbudda that these Anthropophagists are found. Horrid as such recitals are, be it remembered

that Strabo says in his time the custom prevailed in Ireland, and Rhodrogenius declares the same to have been the case in Scotland.

In their recognising the Sun as the incorporated essence of the Deity, or material evidence of their Creator, as well as from their vague notions about an eternal reckoning beyond the grave for deeds done in the flesh, we are led to conclude they are not wholly without some knowledge of a revelation of the True God having reached them, though the channels through which it flowed are now no longer visible. The worship of the sun was the great apostacy after the Flood; and it is not improbable, therefore, that their ancestors might have taken this sun worship with them from the plains of Shinar. The Tower of Babel, both from its name and form, had doubtless some connection with this idolatry. The Ghond, in addition to his adoration of the sun, performs a slighter homage to the moon,—believes in the influence of genii over his destinies, and strives to conciliate the good will of the malignant ones by the aid of sorcery, in which he has a firm faith,—this Jadooism being in point of fact identical with the Shamanism of Tartary. They possess no idols, unless we term those huge misshapen rocks such which, from their grotesque appearance, have been invested with something of a supernatural character; smearing them over with oil and sendoor, he pays them adoration. In this worshipping of huge stones, or rocks, may there not be some resemblance traced to similar customs with the Druids? Like them, too, we see their temples are circular enclosures, open to the heavens, formed merely of a low wall of loose stone, the entrance to which is towards the rising sun: opposite, are arranged a row of conical shaped stones, anointed with oils and sendoor, before which flowers, fruits, and seeds, alone are offered. Rings of single stones are often met with in secluded spots, the work of some devout cowherd, within which he pays his adorations. In connection with their religious belief, we must note a curious circumstance of their having the Scythian symbol of the sun, a horse, cut out upon a wooden pillar, on which the sun is carved also. On questioning them upon this particular, they could give no reason for placing the horse there too, beyond it being their wisdom to do so; and all, therefore, we can suppose, is that it has resulted from some shadowy tradition that has been handed down to them. These pillars are two in number, with rude figures of the sun on one, and the sun, moon, and horse, upon the other. Their forms are remarkable; and whether by accident, or design, are of themselves symbolical of the sun, such being the shape those monuments took that were erected to its honor, and hence termed Obelisks, from the God Bel, the solar deity of the Chaldeans.

They can hardly be said to have a Priesthood, but such as it is, they elect amongst themselves, having no other consecration than this to the office. His sacerdotal duties are more connected with

> "The poisonous charms
> Of baleful superstition,"

than any rational adoration of that Great Being whose power and might he recognises in the glory of the great star of day. Neither have they days, or stated times, for worship, but just when the whim seizes them. The Priest has yet another office to fulfil,—the union dating from the remotest antiquity: he is the physician also, as with the ancient Egyptians, none beside them being deemed worthy of so important an office as the welfare of the public health. Perhaps the proofs surpassing all others, demonstrative of the existence of national relationships, are found nowhere so satisfactory as in the evidence of language, and therefore it has been not inaptly termed the touchstone of nations. Dr. Johnstone has some appropriate remarks upon this point, very applicable in the present instance: he says—"The similitude and derivation of language afford the most indisputable proof of the traduction of nations, and the genealogy of mankind; they add often physical certainty to historical evidence of ancient migrations, and of the revolution of ages which left no written monuments behind them." Idioms and phraseology foreign to the original language, would imperceptibly creep in and become incorporated with the mother tongue, were it hedged in as this has been by other tribes all speaking various languages. To such an extent has this occurred, that they now no longer can discriminate this foreign admixture from the older stock; ignorant, too, as they are of the use of symbolical writing. The first consideration in this investigation will therefore be the endeavour to obtain the older tongue, and we think we shall show we have succeeded in taking the first step towards overcoming this difficulty. In a work recently written upon the statistics of Malacca, by Captain Newbold of the Madras Army, he has dwelt very fully upon the condition of the Aborigines of the Malayan Peninsular, who are called Benuas. This race, according to his description, have precisely the same physiognomy, usages, and habits, as we find the Ghonds possessing and—*mirabile dictu!*—an extraordinary versimilitude in dialect as well. A vocabulary of the Benuas has been given by Captain Newbold, and we find upon comparing ours with it, some remarkable examples of verbal concordance,—in those instances, too, where we should most naturally expect to have found them. The examples might have been more numerous had the materials been more abundant, but so far as they go they appear perfectly satisfactory,—agreeing, as they do, in such a general unity of principle. We are therefore led to believe the origin of the Benuas or aborigines of Malay to be identical with the Ghonds; and those words which may be found used in common by both races will probably prove to be the ancient language spoken by the nation they were descended from. It may be remarked, that we not only perceive an affinity of idiom between the two races, but an analogy as well, for both partake of the monosyllabic construction.

Thus, then, to the best of our ability we have endeavoured to strengthen, by all the proofs we had the power of bringing forward, the truth of the proposition set out with,—that the Ghonds have a Mongolian descent. In the absence of all historical evidence, and of any assistance from the tribes themselves, much will be left to mere con-

these hours; bringing out an old-fashioned and much damaged quadrant, and seating himself on the poop, he first popped a pill of opium into his foul mouth, and then proceeded to impress the profundity of his wisdom on the Arabic crew. To settle the latitude he moved the indicator backwards and forwards for some time, then fixed the screw at a certain figure, took a long look through the one vacant glass frame and the half broken one of the other, then laying down the instrument, masticated his bang in solemn meditation before he gave forth the imaginary latitude! He did not appear to understand the difference between the latitude and longitude. The nakoda was a very light shrivelled up mummy-like personage; such a devotee and fanatic that after leaving the waters of Bombay he became very churlish and uncivil to us; holding up his garments lest they should be polluted by the contact of any thing belonging to a christian whenever one of us happened to go near him. This little man showed his attainments by his implicit faith in the infallibilty of his malum aforesaid; and was very indignant indeed when any of us attempted, as we did at first, to put his mentor right. Hence we soon understood that if ever we reached the intended port, it would be "more by good luck than good guidance." We had a good compass and a watch on chronometer principles, with which, and a good chart, we contrived to mark down our position roughly, computing the distance by the difference of time of sunset.

Towards evening, either on account of the new moon, or our escape from the storm, there was a general rejoicing among the crew, singing to the accompaniment of a tambourine and tom-toms. The evening waned away, and we went on at a rate of about seven knots an hour. Three of ourselves had passed the evening more gaily than usual; the fourth was confined to bed by fever. About midnight we were nearly dashed out of our beds by the vessel striking heavily, and a tremendous sea next moment breaking over us. Then arose a most demoniacal succession of lamentable cries from the crew, just such as one would imagine to be the result of an announced holiday to his satanic majesty's subjects. The helm was abandoned: all was confusion and uproar. If at this moment the anchor had been cast we might have been safe, for the vessel drifted some way before she again struck. We each tried to encourage, to bribe, and to threaten, the crew to stand to their duty, but no one would listen. The breakers now rolled over us every moment, and the hen-coops were dashing about with other loose things in a fearful manner. We took refuge under the poop: a large looking-glass was banging about on its string; one of us took it and threw it away. We were obliged to hold on while each surge went over us. The wind was southerly, and blowing us on the shoreward side; the sails should have been lowered, as with their assistance the vessel was laid on her beam ends at each breaker. We relieved her a little by cutting the main sheets, but this was only exchanging one evil for another, as the wreck attached to the freed sail kept sweeping and lashing furiously across the vessel, till at last getting wet, the main-mast broke off about six feet from the deck; then one

of the large wooden tanks fastened at each side of the quarter-deck broke loose, and after a few heavy lurches, knocked the other one through the gunwale of one side, and carried away the opposite gunwale in making a passage for itself into the sea. The mizen mast soon followed the main, and suddenly the poop gave way, and sunk upon our heads to within three (3) feet of the deck, compelling us to quit our position, which we could do with less danger, since the deck had been cleared of its floating lumber. Three of our party not being swimmers, were made fast to the stump of the main-mast, and the fourth who, on getting out of bed, had taken his watch from under the pillow and thrown the guard over his head, scrambled upon the poop, when a tremendous sea struck and smashed it to pieces, sweeping it into the boiling sea with its occupants, consisting, besides the one mentioned, of the nakoda and a Turkish merchant of Medina. During all this time such of the crew as were not washed overboard were like "the sons of Belial, continuing the uproar;" under cover of which they were employed breaking open the boxes and bales they could get at, in search of treasure. No one knew where or how far off the land was, as the darkness was extreme, and none of us dreamt of being saved; but we shook hands, and made up our minds that our race was run, and that in a few minutes more we should be "food for fishes." Then came bitter thoughts of our homes, and all those most dear to us; and to add to the sting of death, there was no chance of their ever learning our fate. The waves still roared over us, and yawned for their prey. The wreck soon went to pieces, and the party tied to the mast were cast on shore with a few bruises received in the passage. They were surrounded by the Arabs, who were heard bawling to each other news of the wreck from the caverns in the hills: they were then pushed forward to the interior; and passing on the shore the body of their companion, lying with a deep gash on the forehead, they were anxious to scrape a hole in the sand and cover his remains, but the Arabs would not permit them to stop, and they were hurried inland over a most dreadful stony valley, sand for a few miles, when they passed a large square building, and shortly descended into and crossed a rocky nullah, arriving at the town of Geda on the other bank, and were conducted to the habitation of a Banyan, who lodged them on the roof of his house, (all here are flat roofed) over which there was a ruinous framework of tattered matting of date leaves. Here the Banyan had no choice in receiving them; he but obeyed the mandate of the "Sheikh of Belled." He gave them some dates and water. They tried to forget their fatigues and dangers in sleep, but the place being all open to the wind, the cold prevented them. Couched on the earthen floor, all the covering one had was a night cap, another the shoulders and arms of his shirt, and the third had saved a shirt. Next morning crowds came from a distance to inspect the strangers, and most insisted that they were lepers! In the course of the day their lost companion arrived, lamed by the stones, having no shoes, and in a state of extreme exhaustion from long-continued fever—encreased by the ac-

cident which had just occurred. It appeared that just as he was washed overboard with the wreck of the poop, two planks which were joined in the middle at edge by some swivel or nail on which they could play freely, caught his thigh between them, and, in the raging of the sea, lacerated it very severely; and keeping it under water for some time, nearly drowned him, when a wave dashed the planks away: almost senseless he buffeted in direction with the waves, until his foot touched the ground, when a heavy billow overthrew him, and the next thing he recollected was lying on the sand with one of his dogs on each side of him. Shortly afterwards his faithful servant Juwan came up, and told him that he had found his master lying senseless on the shore where he had been washed up; that he carried him a little distance from the spray—searched for, found, and gave him some of the contents of a bottle that he thought was beer, but while he was thus engaged an Arab came up and took the bottle from him. The limbs had become quite stiff from the cold and wet, and he was not able to move till warmed by the morning sun. He had a flannel sleeping gown on, to which his existence that night was probably owing: his watch and a valuable diamond ring secured amongst his hair. The watch was given over to the care of Juwan, who concealed it in his langootee, where he had some silver spoons and forks saved. During the night Juwan had seen the Arabs breaking up and robbing all the chests or boxes that came on shore. He now walked over the same road his companions had passed over during the night. Near the large house he became so very faint as to be obliged to seat himself on a stone, when an Arab girl brought him water; and what a delicious draught that was. As soon as the party was a little settled, nothing but misery and misfortune staring us in the face, and one murmured at having been saved for a worse fate! We were often threatened to have our throats cut unless a ransom was paid; and though the Bedouins had ascertained beyond any doubt our absolute nakedness, yet they thought we had only to will and we could pay them any sum. Whites had been heard of, but never seen in their country before, and were all supposed to be sorcerers; and in this belief the lame, halt, and blind, from all parts flocked to be cured instantly by the medical officer or hakim, and none was more urgent than the Sheikh of the clan, an old man about seventy, of a very forbidding aspect. He said all he required was to be reorganized, or if that little favour could not be granted, at least that he might be enabled to perform the nuptial duties by two young wives he had recently added to his already large stock! No denial would do: he begged, beseeched, and threatened, in turns—sometimes saying "Ah, the hakim is sorry for the wreck, he is ill, and in a bad humour; when his heart rises he will grant my little requests." A valuable medicine chest had been lost in the wreck, and the hakim promised to do much good among them if this was restored. Then they begged for written talismans, and were accommodated with small pieces of paper with the hakim's name written upon them.

[The remainder of the notes has not been received.—Secy.]

Memorandum on the City of Shikarpore, in Upper Scinde. By Captain T. POSTANS, 15th Regiment N. I.

[Communicated by the Author.]

SHIKARPORE may be considered the most important town in the country of Sindh in point of trade, population, and influence. It is situated in *Upper Sindh*, or above Sindh proper, at a distance of twenty four miles N. W. from the Indus at Sukkur, about forty miles from Larkhana, and thirty-six miles from the edge of the desert at Rojhan, which separates Upper Sindh from Cutchee.

2. Shikarpore dates its origin to the year of the Hijira 1026, (A. D. 1617) is an ill built dirty town, its walls in a state of delapidation and decay, the consequence of the total neglect and apathy of the Chiefs of these countries to the improvement of their possessions, further shown in the neglect of the Sindh Canal which flows within a mile of the city towards Larkhana, providing means of irrigation to a large tract of country, and a temporary but important water communication from the Indus during a few months of the year.

3. The houses in Shikarpore are built of unburnt bricks, upper-roomed, and some of those belonging to the wealthier soucars are of respectable size, and convenient. The streets are narrow, confined, and dirty in the extreme. The Great Bazar, which is the centre of all the Trade and banking transactions for which Shikarpore is celebrated, extends for a distance of 800 yards, running immediately through the centre of the city. It is, in common with the bazars of all towns in Sindh, protected from the oppressive heat by mats stretched from the houses on either side: this, although it imparts an appearance of coolness, occasions, by the stagnation of the air, an insufferably close and evidently unwholesome atmosphere, evinced in the sickly appearance of those who pass nearly the whole of their time in the shops and counting houses. This Bazar is generally thronged with people, and though there is little display of merchandize, the place has the air of bustle and importance, which it merits. The walls of Shikarpore, also of unburnt brick, have been allowed to remain so totally without repairs, that they no longer deserve the name of a protection to the city; they enclose a space of 3800 yards in circumference.

4. There are eight gates. The suburbs of Shikarpore are very extensive, and a great proportion of the population, calculated as belonging to the city, reside outside, particularly the Mahomedans, and working classes: with the exception of one tolerable musjid, on the southern side, Shikarpore possesses no building of any importance.

5. By a census taken with considerable care during the preceding month, the following is a return of the inhabitants of this city, including the suburbs.

Hindoos	19013	souls, houses 3686.
Males	9604	
Females	9409	
Mahomedans	8558	souls, houses 1800.
Males	4467	
Females	4091	

In detail thus.

Hindoos, divided according to shops.	
Grain Sellers	64
Confectioners	56
Cotton Sellers	12
Soucars	35
Shroffs	66
Cloth Merchants	65
Goldsmiths	94
Dealers in Drugs	32
„ „ Metals	17
„ „ Silk	37
„ „ Enamel	19
„ „ Perfumes	11
Vegetable and Milk Sellers	46
Dealers in Dry Fruits	97
„ „ Salt and Sundries	249
Ivory Turners	3
Total Hindoo Shops	903

NOTE.—This is of course only a portion of the Hindoo population.

The Mahomedans, divided according to Trade, &c.	
Weavers of Coarse Cloth	1554
Dyers and Washermen	1248
Oil Pressers	50
Weavers of Mats	30
Tailors	300
Barbers	244
Shoemakers, and Workers in Leather	305
Ironmongers	290
Embroiderers	95
Lapidaries	164
Potters	103
Cotton Cleaners	121
Butchers	89
Carpenters	246
Preparers of Woolen Mumiels	33
Labourers	467
Musicians, Singers, &c	267
Cossids	83
Gardeners	47
Syuds and Moolahs	433
Cultivators	2389
Total	8558

Independant of the above there are altogether 1001 Affghans and Patans in the city of Shikarpore, employed principally as cultivators, and a few for police duties by the Government. They are of the following tribes, 1 Populzye, 2 Peshenee (Syuds,) 3 Barukzye, 4 Noorzye, 5 Rasakzye, 6 Magub, 7 Lukoozye, 8 Dooranee, 9 Baber, 10 Oosteranee, 11 Momin, 12 Kakur, 13 Ghilzee, 14 Bureeck, 15 Burduranee, 16 Firheen, 17 Babee, 18 Dumanee, 19 Owan, 20 Perunee.

6. It will be seen from the above that the population of Shikarpore may be calculated at 28571 (say 30,000) souls, of whom 9558 (say 10,000) or one-third, are Mahomedans. In the above are also included

many Hindoos, who are employed in distant countries as agents from the soucars, returning at various periods to their families, who are always left at Shikarpore.

7. The Hindoos carry on all the trade, whilst the cultivation and artizanship of almost every denomination is in the hands of the Mahomedans.

8. The dress of the Hindoos of Shikarpore varies little from that of the same class in other parts of India, except in those who are servants of the Native Governments, as deputies or collectors of revenue, and these invariably adopt the bear d and Mahomedan costume peculiar to Sindh. In their habits of life and religious observances, the Hindoos of this city, as indeed throughout the whole of the Mahomedan countries westward of the Indus, indulge in a degree of laxity totally at variance with the strict rules by which they generally profess to be regulated; they possess, however, an unusuul degree of influence at Shikarpore, and are too valuable to the financial resources of the country not to be permitted to maintain it.

9. With the exception of the Moollahs and Syuds, few of the Mahomedans of this city are either wealthy or influential. The Affghan Zamindars, who, under that rule held important possessions in the vicinity, and were men of note and consideration, have been gradually stripped of their rights by the Talpur Chiefs, although in many cases the same were guaranteed to them under promises held to be sacred. In consequence of this their, number has considerably decreased, and those who remain are poor, and from the connections they have formed in the country have become naturalized, and are no longer entitled to be considered as foreigners.

10. The country in the immediate vicinity of Shikarpoor is low, and admits freely of irrigation from the inundations of the river Indus by means of smaller nullahs leading from the Sindh Canal. Cultivation is extensively carried on, and the gardens of Shikarpoor are rich in all the fruits peculiar to the country : the Mangoe, Neem, Accacia, Peepul, and Mulberry trees, attain great size. The soil is a rich alluvial, and its capabilities for production are no where better displayed than in the *Mogullee* district (that in which Shikarpore is situated,) owing to the advantages in this respect (possessed by nearly the whole of Upper Sindh) being turned to due account ; still, comparatively speaking, only a limited portion of land is brought under cultivation. Rice and Juwarree form the great *Khurreef* or Autumnal, and wheat the *Rubbee* or Spring crop. The former are entirely dependant on the inundations which commence to be available for purposes of cultivation about the middle of April, and continue until the middle of September. The *rubbee* crops are raised by means of wells and bunds, formed from the inundations. The soil is so rich that no manure of any kind is used, the inundations bringing with them a certain slimy matter, which appears highly conducive to fertility. The ground is allowed to remain fallow from the reaping of one Khurreef crop in October until the sowing of another in April or May, and the same with the *rubbee* lands. This rule appears to obtain all over the country. Water is found at an

average of about 20 feet from the surface, and to a depth of 60 feet ; the finest description of sand is alone observable, with the alluvial soil as a superstrata; a stone, or rocky formation of any description, is not to be seen.

11. All the approaches to Shikarpore are bad, from the country being so constantly intersected with water-courses, and no measures being taken to provide bridges or repair the roads, which are cut up by gharees, and the constant traffic of camels, bullocks, &c. A comparatively trifling outlay would obviate this, as also improve the Sindh Canal, which, from having been allowed to choke up at its mouth, and get generally into disrepair, is only navigable from the end of April to the beginning of October ;* whereas it is capable of affording an important means of water communication from the Indus to Shikarpore, for at least nine months of the year.

12. Shikarpore being in the immediate route for the transmission of merchandize to Khorassan, and countries to the north-west, by the pass of the Bolan, has, with Dera Ghazee Khan, obtained the title of the "Gates of Khorassan." Its influence is more immediately felt, however, in the banking transactions which, by means of Agents, it carries on in every intermediate place above the Bolan Pass, from Quettah and Kelat, to Bokhara and Herat, as also in all places of mercantile importance in India. Vexatious transit and other duties on goods pursuing the Shikarpore route towards Khorassan, have tended to turn much of its former trade, especially in European goods received from its port of Kurrachee, into the Channel of communication to the N. W. by way of Sonmeanee, Beila, and Kelat, the more direct, and at present by far the less expensive route ; still I have reason to think that if our political influence with the chiefs of the countries bordering the Indus will admit of it, a revisal of their imposts,† together with a settlement of Cutchee and suppression of the marauding system in that province and the Bolan Pass, would revive the trade of Shikarpore, and induce its merchants, who do not want for energy, to purchase largely of such investments as might be cheaply transmitted by means of the River Indus: with the absence of tolls on merchandize, in transit, whether by water or land, they would be sure of making a favorable market, coupled also with the protection afforded them through the desert of Cutchee, which they could only formerly procure at an exorbitant amount of black mail to every leader of a predatory band.

13. The various productions of these countries, and their prices in the Shikarpore market, ‡ have attracted the attention of that energetic body the Chamber of Commerce of Bombay, and in the article of

* The present state of the mouth of this Canal is such, that the river must rise at least ten feet from its ordinary level before it will pass to the bed of the Canal.

† See a list of Export, Import, and Transit duties levied on articles of trade at Shikarpore, by the author, published in the *Bombay Government Gazette* of the 28th July.

‡ A monthly Price Current of articles in the Shikarpore market, is now published by authority.

Indigo alone there can be little doubt but that the produce of the Khyrpore, Bhawulpore, and the Punjaub countries will form a staple return commodity for merchandize to be transmitted from the above Presidency. Silk (raw,) Drugs, and Dyes, may also be enumerated as well worthy of attention. Shikarpore receives from Kurrachee Bunder, Marwar, Mooltan, Bhawulpore, Khyrpore, and Loodhiana, European Piece Goods, Raw Silk, Ivory, Cochineal, Spices of all sorts, Coarse Cotton Cloths, Raw Silk (China,) Kinkaubs, Silk manufactured, Sugar Candy, Cocoanuts, Metals, Kirame (or groceries,) Drugs of sorts, Indigo, Opium, Saffron, and Dyes of sorts, from Cutchee, Khorassan, and the North West, Raw Silk (Toorkistan,) Fruits of sorts, Madder, Turquoises, Antimony, Medicinal herbs, Sulphur, Alum, Saffron, Assafætida, Gums, Cochineal, and Horses. The Exports from Shikarpore are confined to transmission of goods to Khorassan through the Bolan, and a tolerable trade with Cutchee (Bagh, Gundava, Kotree, and Dadur). They consist of Indigo (the most important,) Henna, Metals of all kinds, Country Coarse and fine Cloths, European Piece Goods (chintzes,) &c., Mooltanee Coarse Cloths, Silks manufactured, Groceries, Spices, Raw Cotton, Coarse Sugar, Opium, Hemp Seed, Shields, Embroidered Horse Cloths, and Dry Grains. The influence of the British Government, and the protection it has already afforded to trade in these countries, have had their effect at Shikarpore, evinced in the increasing revenue, * and settlement there of influential traders from Loodhiana, Umritsir, Bhawulpore, and other places.

14. The revenue of Shikarpore derivable from trade, amounted last year to Rupees..... 54,736
Other taxes, and revenue for lands belonging to the Town. 16,645
Making a total of.....Rupees... 71,381
Divided between the Khyrpore and Hydrabad Chiefs, in the proportion of $\frac{3}{7}$ths to the former, and $\frac{4}{7}$ths to the latter. The lands and villages forming the Shikarpore Pergunnah amount to about six Talookahs, and about sixty villages, of which four Talookahs and twenty-three villages only belong to the Government. The revenue of the whole, deducting Jaghires, may be about two lacks annually.

15. The Government of the Town is vested in two agents, or Governors, furnished by the Hydrabad and Khyrpoor Ameers, who have also the duty of the police of the districts, and collection of revenue.

The climate of Shikarpore is sultry, and the heat excessive from the middle of March until the end of August. Here are no periodical rains, though storms are generally looked for at the end of June or middle of July. If rain falls at that time, it continues only for a space of two or three days, but severe falls occur frequently at the Vernal Equinox.

The air is remarkably dry and clear: the low situation of this Town, coupled with its being surrounded by stagnant pools close to the walls,

* The soucars report that the trade of this place has increased nearly one-third during the current year.

and a large space of the adjacent country for a considerable period being completely under water, would warrant a supposition that the place was exceedingly unhealthy ; yet it is not so except for a short period, from the middle to the end of September, during which the inundations are drying up, and ague in a mild form is prevalent. Exposure to the sun of Sindh, whether Upper or Lower, during the hot months, is invariably attended with dangerous effects, and for a certain period of the year the Natives themselves avoid it as much as possible. The hot winds at Shikarpore lose much of their intensity, prevailing generally from the southward, and passing over a considerable expanse of water : they continue, however, during the months of April, May, and June, to blow till midnight. In the deserts N. and W. of Shikarpore, the deadly Simoom is often encountered. The winds vary generally between S. and N., the former the prevailing. The Easterly winds attain for a short period during the Autumual, and the westerly during the Vernal, Equinox. The former often precedes rain. Shikarpore is not exempted from a great source of annoyance, experienced at at Sukkur, Hydrabad, and all places on the banks of the river, from the Delta upwards, viz. sand storms. The cold months may be said to commence in September, and last until the middle of March. Frost and Ice are not unusual, and vegetation assumes all the appearance of winter in a northern climate. After a fair experience of nearly two years residence at Shikarpore (the season of 1839 being considered an unhealthy one) I conceive that with the precautions considered necessary elsewhere, of good houses and due attention to draining, troops might be cantoned at this place without any greater disadvantages than are to be met with in most of our stations in the interior of India. When it is considered that the officers and men of a force stationed here during the most trying months of 1839, were for nearly the whole period under canvas, or in mud huts affording even less shelter than a tent, and that the inundations were allowed to reach in all directions within 200 yards of the camp, it is only surprising that the disease and mortality were so inconsiderable. I believe out of a force of nearly 2000 men, the latter amounted to under twelve cases. The mornings at Shikarpore are invariably cool.

16. Routes from Shikarpoor to various places with which it carries on trade; with the estimated distances from Shikarpore to the N. E.

1. To Mooltan, by way of *Deh Ahwul,* on the river. Cross the river

to	Azeezpore.
,,	Meerpore.
,,	Subzulkote.
,,	Khanpore.
,,	Ooch.
,,	Galloo Gharrah (opening of the Gharrah or Sutledge.)
,,	Shoojabad.
,,	Mooltan.

Estimated distance 215 koss,* twenty-three stages for laden camels, occupies from twenty-three to twenty-six days.

2. From Mooltan to Lahore, by way of Cheechawutnee.

Cross the river to Bendee Sheikh Moosa.
„ Seyud Dalloo.
„ Zambra.
„ Munjee Baba Naunacshah.
„ Surakpore.
„ Lahore.

Estimated distance from Mooltan to Lahore 140 koss, fifteen stages, and occupies with laden camels about eighteen days.

3. To Amritsir from Lahore twenty-five koss and two stages.

4. From Amritsir to Loodhiana, forty koss and four stages.

From Shikarpore to Deera Ghazee Khan, the route is by way of Rozan, Mithen Kote, and Deojel; occupies about twenty to twenty-three days; estimated distance 200 koss, twenty stages.

Shikarpore to Jeysulmere, by way of Sukkur and Roree.

To Oodenkote (Ooden ka Kila.)
„ Dandooluk.
„ Gottaroo.
„ Chomdree.
„ Jeysulmere.

Estimated distance 108 koss, fifteen stages, and occupies from fifteen to eighteen days.

From Jeysulmere to Palee by way of Pakram and Joudpore 120 koss, sixteen stages, and occupies sixteen to nineteen days.

Shikarpore to the N. W. to Dadur. The high road for Kaffilahs is by way of Janeedera
„ Rojhan (edge of the desert.)
„ Bursloorее (across do.)
„ Kassim ka Joke.
„ Bagh.
„ Merjassir.
„ Dadur.

Ninety koss, fourteen stages, occupying from seven to ten days.

The Routes above the Bolan Pass to Kelat, Kandahar, Cabul, &c., are now too well known to require repetition. From Shikarpore to the South, to Kurrachee, by way of Larkhana.
„ Sehwan.
„ Karrachie.

Distance 150 koss, twenty-nine stages, and occupying from twenty-nine to thirty-three days. This road is impracticable from April or May until September as far as Sehwan, and the river is the means of conveying merchandize.

* If these distances are compared with those laid down in the late map of these countries, it would appear that the koss was calculated generally at about 1½ miles, but the idea of distance by the natives is generally very vague, and they calculate more on the time occupied in a journey.

Volcano in the Red Sea.—Extract paras. 2 at 6 of a letter from the Officer Commanding the Steam Vessel Victoria.

[Presented by Government.]

"2. Accompanying I have the honor to forward an abstract of the Steam Log; and would beg to call your attention to the Remarks in the Log of the 14th August, A. M., the limited columns of which would not allow me to dwell further on the subject therein alluded to.

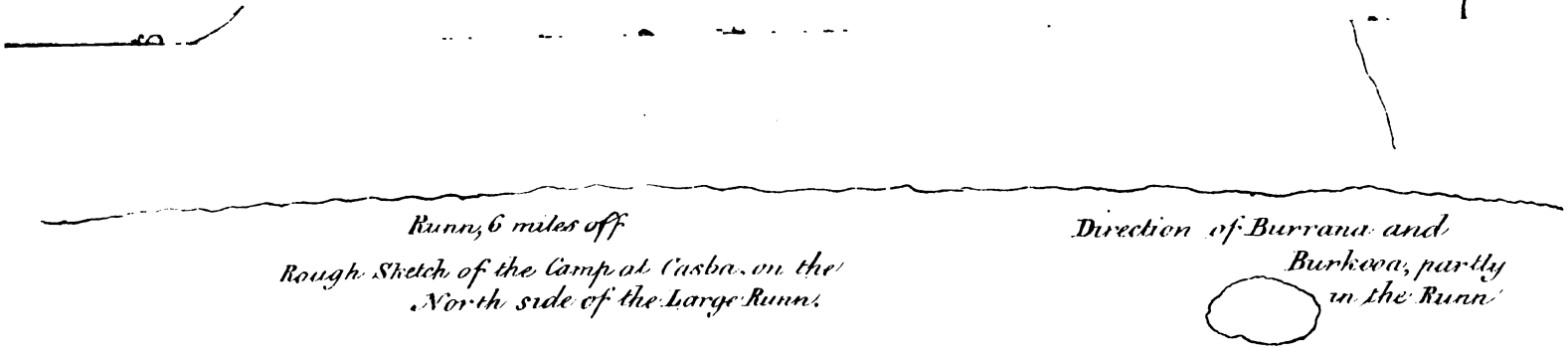
"3. The morning of the 14th was ushered in with very cloudy weather, the atmosphere close and oppressive, but nothing that would indicate the approach of so severe a squall as we experienced. About 10 o'clock observed a thick mass of black Clouds extending along the Horizon from N. W. to S. W. Then came a most vivid flash of Lightning, followed by a distant, though peculiarly distinct, sound of Thunder.

"4. We were passing the Zebayer Islands at the time, when just after the first flash of Lightning we observed the Island marked on the Chart as Saddle Island, Latitude 15° N., Longitude 42° 12′ E., smoking, the smoke issuing from its summit in a narrow spiral thread. At this time it bore N.N.E. from us, distant about three miles; we were steering N. W. by N. Shortly afterwards the smoke issued forth in a dense sulphury-looking cloud; the squall burst upon us, and it was shut out from view.

"5. The Zebayer Islands are all of volcanic origin, but there is neither record or tradition of their having been in active operation. Jibbel Teer, in Latitude 15° 32′ N., Longitude 41° 55′ E., was observed to be smoking when visited by the officers of the *Benares* during the survey of the Red Sea in 1832, but never since. There is a tradition among the Arab Pilots of its having been "on Fire" some 50 years ago; it bears the name of Jibbel Dookan among many of them, viz. "Hill of Smoke." It certainly has the appearance of having been in active operation at a much later period than the Zebayer Islands.

"6. I dwell on this subject as I consider it of great importance to the navigation of the Red Sea. These Islands are right in the track of vessels proceeding up and down. The smoke was seen for fully the space of half an hour, when it was concealed from view by the very thick weather, and again an hour afterwards when it partially cleared up. The weather continued very unsettled, with heavy squalls till midnight."

(True Extract) (Signed) P. M. MELVILL,
Lieutenant-Colonel, Secretary to Government.



Geo. Fullyames.

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